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CULTURAL RESOURCES SURVEY OF THREE MISSISSIPPI RIVER LEVEE AND --ETC(U)
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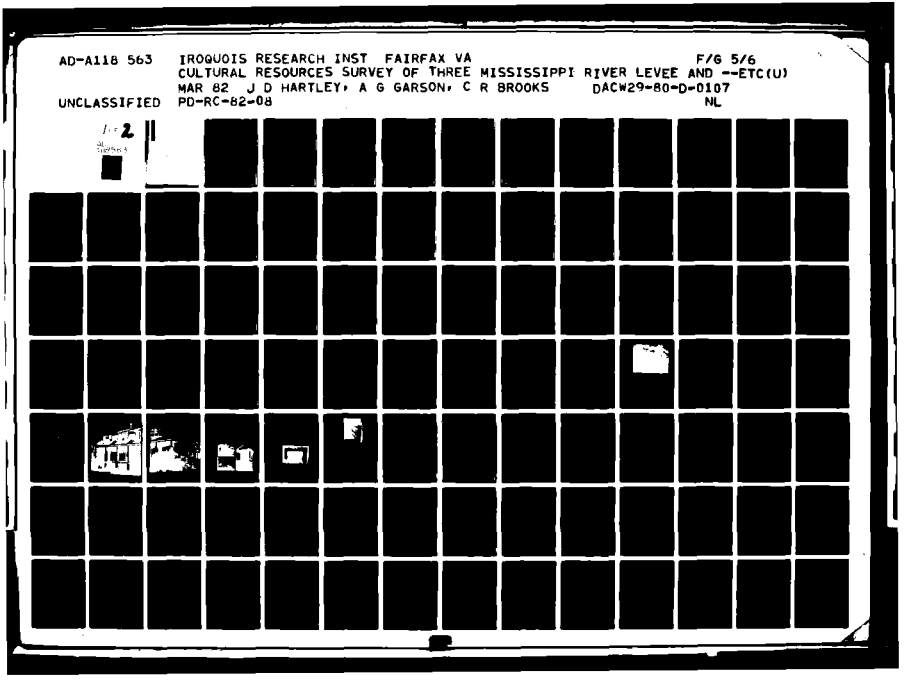

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In September of 1980, Iroquois Research Institute conducted an archeological survey of three levee and revetment items on the Mississippi River in Plaquemines Parish, Louisiana.

Two historic sites were discovered. One consisted of an inlet and possible fragmentary wharf located in the Bohemia Revetment. At the Harlem Levee Setback, brick scatters, in situ brick remains, and a large standing house were identified within the project right-of-way. The remains at the Harlem Setback are probably associated with the Old Harlem Plantation and are potentially significant to local and regional history and to historic archeology.

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# INTRODUCTION

## Scope of Study

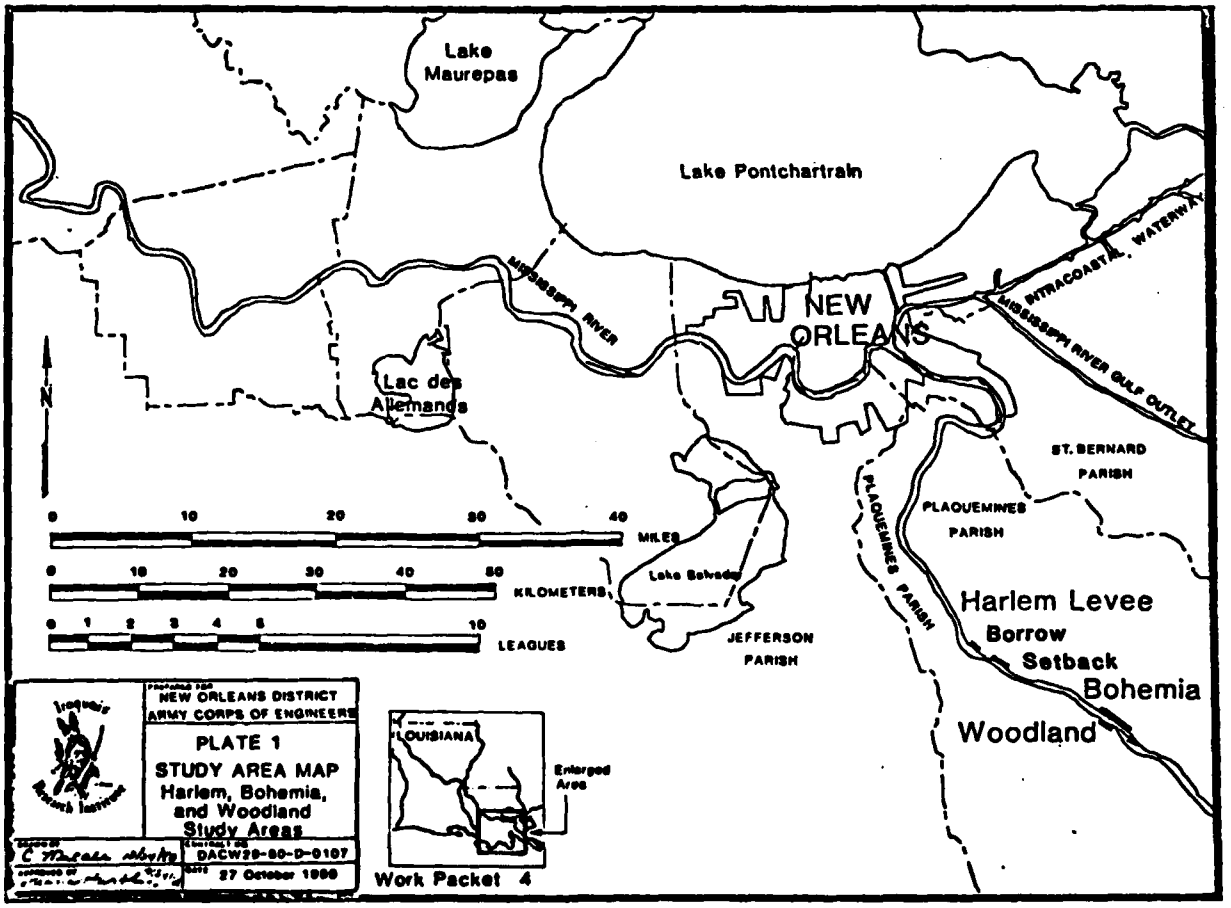
Iroquois Research Institute, under contract with the United States Army Corps of Engineers, New Orleans District, conducted an intensive cultural resources survey at three locations along the Mississippi River in southern Louisiana. The surveys were completed for Work Packet Four of Contract No. DACW29-80-D-0107, entitled "Miscellaneous Cultural Resources Investigations within the New Orleans District." Work Packet Four includes the following items:

1. Bohemia Revetment M-46-L, Levee Stations 2374 + 00 to 2520 + 00, Plaquemines Parish.

2. Woodland Levee Enlargement Borrow M-49-R, Levee Stations 1850 + 00 to 1858 + 35, Plaquemines Parish.

3. Harlem Levee Setback and Borrow M-56-L, Levee Stations 1710 + 50 to 1724 + 00 and 1890 + 00 to 1921 + 00, Plaquemines Parish.

As shown in Plate 1, the locations of the three items included in Work Packet Four are downriver from New Orleans between river miles 46 and



56. The United States Army Corps of Engineers plan to construct a concrete revetment at Bohemia, excavate a borrow for the levee at Woodland, and realign the levee at Harlem. The archeological surveys at Bohemia and Woodland were conducted in the batture between the river-side tow of the existing levee and the river bank. At the Harlem Levee Setback the survey was conducted on the landside of the existing levee.

These surveys were carried out as required by the National Environmental Policy Act of 1969, Public Law 91-190; "Protections and Enhancement of the Cultural Enviornment," Executive Order 11593; the Procedures for the Protection of Historic and Cultural Properties, 36 C.F.R. 800; the National Historic Preservation Act of 1966, Public Law 89-665; and Army regulation ER 1105-2-460, Identification and Administration of Cultural Resources.

The level of investigation for this project is defined as an "intensive cultural resources survey for the purpose of locating historic and prehistoric cultural remains, and assessing their significance" (Work Packet Four, Contract No. DACW29-80-D-0107). To achieve this objective Iroquois Research Institute performed an intensive archeological and historical literature and records review and a systematic archeological field survey of the right-of-way of each item. An intensive survey usually incorporates some form of subsurface testing if necessary (36CFR66:Appendix B). Except to determine the extent and depth of cultural resources, Iroquois Research Institute did not utilize subsurface testing procedures while surveying Work Packet Four. Two reasons accounted for this decision. First, since overbank sedimentary deposition along the Mississippi River is very rapid, thirty-centimeter deep shovel tests would not be effective for discovering remains that, if older than fifty years, would be deeply buried. Second, all the study areas occur in very highly disturbed areas, particularly the batture zones where levee and revetment construction has severly disturbed surficially occurring cultural remains.

Archeological and historical remains found during the survey have been evaluated to assess the significance of each cultural property in accordance with the National Register of Historic Places criteria promulgated by Federal regulation 36 C.F.R. Part 60.4, dated 16 November 1981.

## Research Objectives

The kinds of research questions asked in conjunction with a particular cultural resource management project depend on the scope of a project and on the state of knowledge of the particular project area. The primary objectives of this project were: (1) to locate and inventory the cultural resources within the areas that may be affected by the project, (2) to evaluate the potential significance of identified resources and request a determination of eligibility for potentially significant properties, and (3) to make recommendations for further investigations or mitigation of adverse project impacts on resources assessed to be potentially eligible for inclusion in the National Register of Historic Places.

The geographical focus of the project was the Mississippi River batture and natural levee. To adequately interpret cultural resources discovered in these areas, it was necessary to assess the geomorphological history of the general study area, to determine the specific fluvial processes likely to affect each individual survey item, and to outline a regional prehistoric and historic framework for the study area.

Map information available prior to the beginning of fieldwork indicated the possibility that properties associated with the Old Harlem Plantation may be impacted by the construction of the Harlem Levee Setback. In addition to the general historic research, a detailed archival study of this plantation property and a description of its architectural elements has been conducted in order to assess the potential significance of architectural and archeological remains observed during the field survey within the right-of-way of the Harlem Levee Setback.

## Disposition of Background Data

In addition to this technical report, cultural resource data gathered during Iroquois Research Institute's survey of the items in Work Packet Four have been submitted as a separate appendix to the United States Army Corps of Engineers. This material includes (1) vicinity maps showing the location of the cultural resources identified within each item, (2) completed site survey forms used during the field investigations, and (3) detailed summaries of specific survey information within each item. This specific information has been deleted from the technical report in order to avoid the possibility of vandalism to the identified cultural resources.

# BACKGROUND STUDIES

## Environmental Setting

Southern Louisiana lies within the Humid Subtropical climatic zone. The low relief throughout the area produces little variation in the regional climate, and local microclimates are generally absent. The area is situated between two major global climatic controls: the Southern North-Atlantic Ocean Anticyclone and the Middle Latitude Cyclone. The interplay between these two systems produces extremely variable weather patterns. Throughout most of the year, the region is dominated by southerly flows of warm moist air, creating a generally warm and humid climate. Because of the absence of significant terrain barriers, however, surges of cold air which occasionally penetrate the region in winter are associated with middle latitude cyclonic patterns (Lower Mississippi Region Comprehensive Study Coordinating Committee 1974).

The following climatic data from the New Orleans Moisant Airport station offer long term records that best characterize the general study area (Lower Mississippi Region Comprehensive Study Coordinating Committee 1974).

During the recording period of 1931-1960, the average annual precipitation was 136.9 centimeters or 53.9 inches. The monthly high occurs in July, with an average of 17.1 centimeters or 6.72 inches of precipitation. The lowest amount of precipitation occurs in October, averaging only 7.2 centimeters or 2.84 inches. With extremely rare exception, all precipitation falls as rain. Freezing precipitation is quite uncommon in southern Louisiana.

The mean annual temperature for the recorded period is 20.3 degrees Celsius or 68.6 degrees Fahrenheit. August, with a mean temperature of 27.7 degrees Celsius or 81.9 degrees Fahrenheit, is the warmest month of the year and January the coldest with a mean temperature of 12.5 degrees Celsius or 54.6 degrees Fahrenheit. The average date for the first freezing temperatures of the year is December 10th, and the last freeze occurs on February 18th. The average freeze-free growing season is 295 days.

In the general study area the local plant and animal communities are strongly influenced by the age and specific characteristics of the sediment deposited by the Mississippi River at specific localities. Portions of the study area immediately along the natural levee of the Mississippi River fall within a generalized Oak-Gum-Cypress forest ecosystem. The natural levee in the study area is quite narrow, however, and is surrounded by marshland. Fresh water marsh is generally limited to the area immediately adjoining the natural levee. Approaching the Gulf, the marsh generally becomes progressively more saline. The variety of salinity conditions in the marsh produces great variability in the aquatic flora and fauna surrounding the study area.

From the time when a sedimentary deposit along the Mississippi first becomes a terrestrial habitat until it eventually reaches some climax condition more or less in equilibrium, the vegetation undergoes

successive developmental stages (Shelford 1963). Initially, new point bars are colonized by sandbar willows along with several herbaceous species. Subsequent stages include a transitional cottonwood-willow, sugarberry-elm-sweetgum forest, and eventually a mature floodplain forest on higher levee positions if flooding is infrequent and of short duration.

The development of a mature climax forest in the study area is hindered by the recent age of the natural levee, high rates of subsidence, and frequent overbank flooding. To the south of the study area, the growth of a mature forest is also inhibited by the salinity of the soil and an extremely high water table.

The floodplain forest associated with natural levees may have a large number of tree species as sub-dominants. Among the tree species present are oaks, including water and live oak, boxelder, cottonwood, and elm. Climbing vines and many herbs are also common components of this forest.

Although the immediate study area falls within a forested ecozone due to its location along the natural levee of the Mississippi River, the ecology of the general region is dominated by marshland. This marshland can be classified on the basis of vegetation, soil type, soil salinities, drainage characteristics and elevation (Chabreck et al. 1968). Fresh water marsh is limited to the area adjoining the natural levee. Generally the marsh grades into more saline environments as the Gulf is approached, although modifications in this pattern exist because of local environmental situations (Chabreck et al. 1968). In addition, soil and water salinity conditions can change very rapidly in this area because of tides, rains, winds and water use (Dugas 1977).

Depending upon prevailing salinity conditions, grasses comprising the marshes in the general study vicinity include salt-water cord grass, spike grass, black rush, saw-grass, and maiden cane. Cord grass, spike grass, and saw-grass provide a major food resource for the large number of migratory waterfowl that seasonally frequent the area.

In addition to waterfowl, the marshes and shallow bays surrounding the study area provide a home for a large number of insects and other terrestrial arthropods, shrimp, many varieties of game fish, minnows, shell fish, amphibians and reptiles (Shelford 1963). Mammals common in the marshes include otters and muskrat. The aquatic faunal assemblage may vary widely throughout the marsh depending upon local salinity conditions.

Terrestrial animal species inhabiting the Lower Mississippi Valley during the early historic period probably included black bear, puma, several varieties of deer, cottontail and swamp rabbit, opposum, raccoon, muskrat, bobcat, skunks and bats. These animal species would have generally been limited in occurrence to the natural levee of the river and its associated forest (Shelford 1963). However, forested high ground in the marshes associated with abandoned distributary channels may also have supported a variety of terrestrial fauna.

## Prehistoric Environments

The Deltaic Plain of the Mississippi River in the area included in this study is probably the youngest land mass of comparable size in North America. Because of the youthfulness of the land it has evolved within a time period having essentially the same climatic characteristics as exist today. Although the great Pleistocene glaciations are directly responsible for the physical existence and character of the land, it has not been influenced by cyclical glacial period climatic changes nor has it supported a flora and fauna significantly different than that which existed at the beginning of the historic period.

The geological and geomorphological evolution and characteristics of the environment will be discussed in the following section. The same processes which are still shaping the land began about 5,000 years ago subsequent to the last major glaciation when sea level reached its approximate present level (Saucier 1974:13). During this entire time period the Mississippi River had completed several repetitive and predictable cycles of delta building, with each successive land surface supporting a flora and fauna similar to previous and subsequent land surfaces at similar elevations. The succession of habitable land surfaces was without doubt a significant aspect of the environment for prehistoric peoples, as it is for the inhabitants of today.

In as far as extrapolations which can be made from the modern environment to the prehistoric, the best starting point is the early part of the historic period. This is because of the great manmade environmental changes occurring in the historic period. Examples of such changes include widespread deforestation, large scale intensive agriculture, levee and canal building and industrial activities. Few, if any, natural undisturbed levees exist along the Mississippi River from which to extrapolate prehistoric levee conditions.

There are, however, quite good records from the earliest part of the historic period to indicate the relative abundance and importance of different plant and animal species in local prehistoric economies. A number of authors have provided extensive accounts of species known to have been utilized by the aboriginal peoples during that period (McIntire 1958:31-49; Davis et al. 1979:16-22). The latter reference concentrates especially on the aquatic and marsh flora and fauna.

With the exception of large animals such as wolf, cougar and bison which have become rare or extinct in southeastern Louisiana, most prehistoric flora and fauna species are still present to some degree, but in much fewer numbers of lower densities and only in some of their original habitats. A few exotic animals such as the nutria and European house sparrow have been added to the indigenous fauna and many exotic plant species have been introduced both accidently and purposefully.

Because of the relatively young age of land surfaces and the relative stability of the climate over the likely period of potential human occupation, it is relatively simple to project that a given spot would have had one of several predictable past environments. These environments

have been defined by Wiseman, Weinstein and McCloskey (1979:2-15) according to definable biotic zones which exist in the modern environment. These zones are Natural Levee, Freshwater Swamp, Freshwater Marsh, Brackish Marsh and Saline Marsh. These authors did not specifically describe the biota of the natural or man-made batture but did describe two human created zones resulting from dredging activities.

Two of these biotic zones, the Natural Levee and the Freshwater Swamp, supported trees with an associated flora and fauna. The Natural Levee zone contained the greatest diversity of resources such as acorns from live oak (Quercus virginiana) and willow oak (Quercus phellos), nuts from bitter pecan (Carya aquatica) and pecan (Carya illinoensis), fruits from persimmon (Diospyros virginiana) and mulberry (Morus rubra) and edible roots from greenbriar (Smilax sp) and wild potato (Ipomea pandurata). Mammals on the Natural Levee included deer, opossum, raccoon, rabbit and squirrels.

In the Freshwater Swamp the principal trees were cypress (Taxodium distichum), tupelo gum (Nyssa aquatica) and maple (Acer Rubrum Var. drummondii). The principal animals were amphibians and aquatic life including water snakes and alligators. Water fowl were abundant here and in the Brackish Marsh.

The Freshwater Marsh usually had a high proportion of cattail (Typha latifolia) mixed with grasses such as common reed (Phragmites communis) and water millet (Zizaniopsis miliacea). Freshwater and brackish marshes were habitats for a large variety of turtles, frogs, reptiles, migratory waterfowl, and invertebrates such as crayfish and clams. The Brackish Marsh had many plant species but was dominated by couch grass (Spartina patens) and black rush (Juncus roemerianus). Fauna in the brackish as well as Freshwater Marsh included muskrat (Onadatia zibethicus), otter (Lutra canadensis) and several species of fish, clams and migratory waterfowl. Of great importance in both the past and present local economics were the shellfish, primarily the brackish water clam (Rangia cuneata) and oyster (Crassostrea virginica; Wiseman, Weinstein and McCloskey 1979:2-15).

For any given portion of a present day batture along the Mississippi River it is not possible to determine without detailed and elaborate investigations the previous environments which may have been attained at a given location at a known time in the past. In the many cases where point bars have been deposited recently to great depths, it is likely that no amount of investigation could establish more than a theoretical model of what prehistoric environments may have occurred at those locations. Such effort would not be warranted in any case since recent point bar deposits along this area of the Mississippi have no potential for containing in situ prehistoric materials.

For the areas of batture which cannot be defined as recent point bars from actual historic records, we may make somewhat more reasoned judgments regarding their most recent environmental setting, that is their last environment prior to becoming a batture. Since the present, largely man-made, battures are quite variable, these areas collectively do not fit into any single previously defined biotic zone or other natural environmental strata.

## Geomorphology of the Study Area

The Mississppi River Alluvial Valley is an important subdivision of the Gulf Coastal Plain. It extends upstream to just north of Cairo, Illinois, a distance of approximately 600 miles. The Alluvial Valley has a width that varies between 50 to 100 miles and it is divisible into five basins: Atchafalaya, Tensas, Yazoo, St. Francis, and Black River. The Alluvial Valley slopes gently to the Gulf and is usually bounded on both sides by abrupt escarpments or bluffs.

The Alluvial Valley has had a complex origin and can be characterized as a valley within a valley. The present valley was formed during the Wisconsin stage of the Pleistocene glaciation. The maximum lowering of sea level during the Wisconsin glacial advance caused the ancestral Mississippi River to incise deeply into the older coastal plain sediments. This entrenched valley thereafter was partially filled with glacially derived sediments as sea level reversed its fall and slowly rose at the end of the Pleistocene. The landward thinning wedge of sediments buried the erosional unconformities and filled the valley. These sediments grade from coarser-sized material at the base to finer-sized material at the top.

The materials overlying the glacially derived sediments were deposited during the period of sea level stability after the last Wisconsin advance. Their composition and internal structures indicate a general progradation of the shoreline resulting from the development of the Deltaic Plain.

The Mississippi River's deltaic plain is considered a separate geological unit defined by the presence of deltaic marine deposits resulting from several progradations of the Mississippi River. Fisk (1944) separates the Alluvial Valley from the deltaic plain along a northeast-southwest boundary line drawn between Franklin and Donaldsonville, Louisiana. Krinitzsky and Smith (1969) and Saucier (1974) suggest that this boundary be moved approximately 20 miles to the southeast of Fisk's line. According to the definition of Fisk (1944), all of the study areas fall within the Deltaic Plain.

Frazier (1967) states that the development of a typical delta complex occurs by the cyclical interaction of progradation, distributary abandonment and transgression. Studies of sediment cores, primarily their lithology, floral and faunal assemblages, and radiocarbon dating, have enabled five distinct deltaic lobe complexes to be differentiated. From oldest to youngest, these are: Maringouin, Teche, St. Bernard, La Fourche, and Plaquemines-Modern Delta Complexes. Each of the five major complexes is related to a major Mississippi River course. Sixteen separate delta lobes have been formed by the Mississippi River during the past 6,000 years and each of them within a particular complex is a result of the shifts of distributary networks of one of the major river courses.

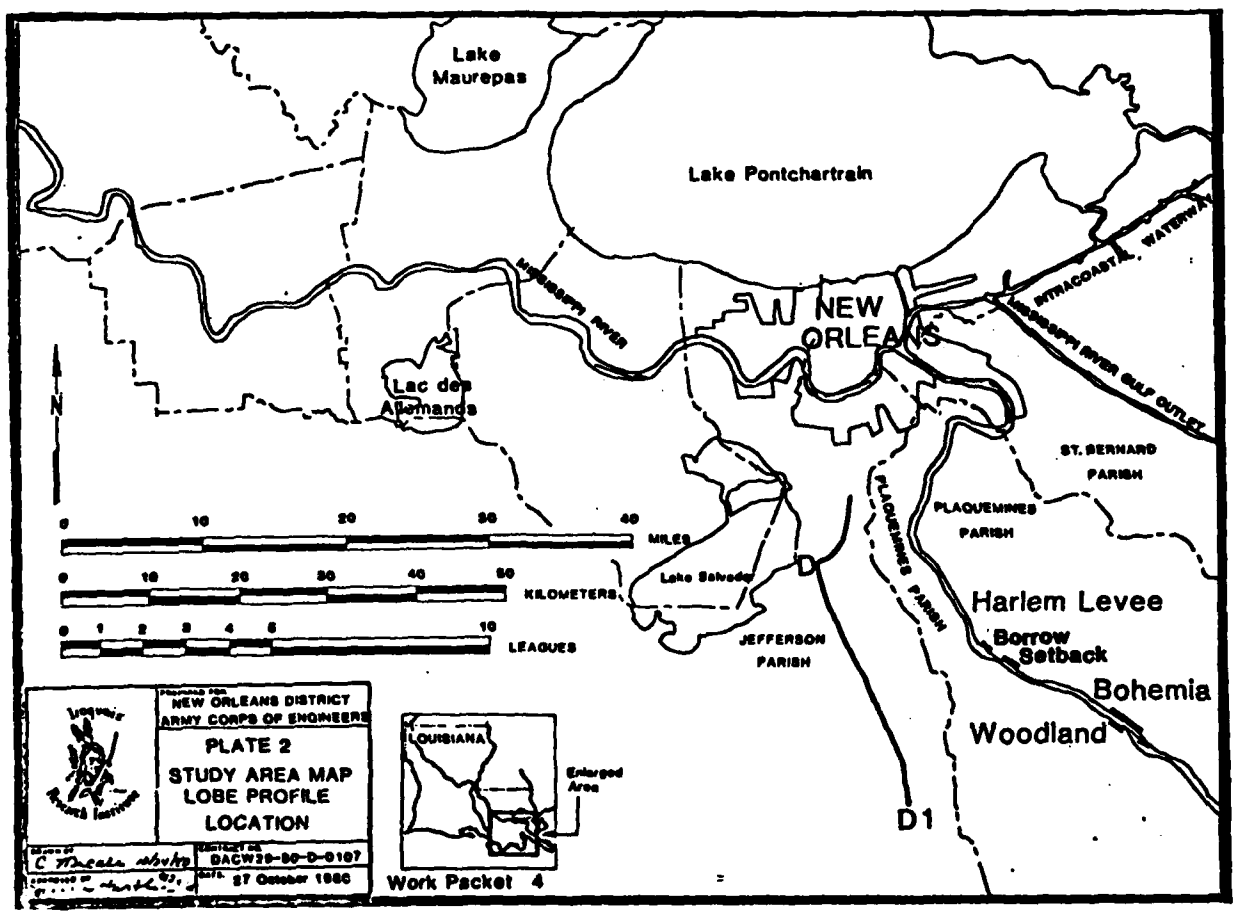
The study areas all lie on or within the portion of the delta characterized as the Plaquemines-Modern complex, whose age is 1,000 B.P. to present. While older deltaic lobe sediments are presently buried in the area, most of this region should have been just below sea level prior

to the establishment of the Plaquemines-Modern Delta Complex and, therefore, unavailable for habitation.

Frazier (1967) shows that this region lies between several active lobes of the St. Bernard Delta Complex and was thus an interdistributary region whose sedimentary record is one of alterations in organic-rich silty clay, peat, and inorganic silty clay deposits. Due to its recent formation, this region would not be expected to be characterized by occupation sites older than 1,000 years.

A portion of Frazier's profile D-D' as shown in Plate 2 lies approximately eight miles west of the study area parallel to the present course of the Mississippi River. This area is underlain by St. Bernard Delta Lobe sediments and is capped by Plaquemines-Modern deltaic materials. Most of these sediments are related to progradation of the delta and aggredation of the inter-distributary regions. The three individual study areas all lie upon the present active levee system.

Although minor migrations of the Mississippi River meander system may have occurred, samples taken at depths of up to 20 feet should still encounter levee or channel deposits formed during the last 1,000 years B.P., if not very recently. Whether a particular site is actively being eroded or receiving sediment deposits is a function of its present location with respect to the Mississippi River channel. The presence of



historic sites will depend, therefore, upon the age of an individual location, its relationship to river level and meander location, and its state of preservation.

### Harlem Borrow and Levee Setback

Harlem Borrow is located on the left bank of a left hand meander of the Mississippi River at Poverty Point. It is currently a place of deposition, characterized by point bar deposits. Older historic remains, if present here, may have been buried by overbank deposition. There is some evidence, however, of a past erosional episode at Poverty Point that may have destroyed any sites situated on the batture. The inland position of the 1874 meander line on the west bank at Irontown, opposite Poverty Point, indicates that the Mississippi River has migrated eastward, thereby contributing to the erosion of the east bank. Cultural resources located along the east bank would have been destroyed during this process.

The Harlem Levee Setback also lies on the left bank approximatelyon a well-developed levee and appears to be in equilibrium between erosion and deposition at present. There appears to have been a meander cut-off at this point in the past, although its age is not known. At the Harlem Levee Setback, most historic sites should have been preserved by burial.

### Woodland Levee Enlargement Borrow

This study area is on the right bank of the Mississippi River between gentle right and left hand meanders. It should be a region of minor deposition. The meander line of 1831 lies approximately one quarter mile to the southwest suggesting a moderate amount of deposition in the last 149 years. Historic sites should be preserved and presently lie further back from the current river course.

### Bohemia Revetment

This study area lies on the left bank opposite the Woodland Levee Enlargement Borrow. Except at Pointe a la Hache, the 1853 meander line is nearly coincident with the present shoreline along most of its length. At least one quarter mile of point bar deposits have been formed since 1853 at Pointe a la Hache. Historical material, if it exists, is probably buried. Because of erosion caused by particular meanders of the river in historic time, however, they may be a local hiatus in the temporal sequence of historic sites from certain periods in the 19th century.

## Prehistoric and Historic Background Research Methodology

This project involved considerable historic, architectural, and archeological background research of archival sources, local histories, secondary accounts, primary research reports, and original historic sources. An attmept was made to focus upon data relevant to land use in

battures and on natural levees. Historic accounts, however, rarely described activities or structures located specifically within the batture. Natural levees, on the other hand, have been the focus of most settlements along the Mississippi River south of New Orleans. Historic documentation sufficiently treated these areas. Maps, if of a large enough scale, provided the best information on battures. Nevertheless, the cartographic review, as explained below, yielded negative results. Given the paucity of documentary evidence of the batture areas, the historic background study concentrated on the natural levee areas contiguous or adjacent to the batture survey items.

General research was conducted at the Tulane University Howard Tilton Memorial Library, Louisiana Collection and Special Collections Department; the University of New Orleans Library and Anthropology Department; the New Oleans Public Library Louisiana Collection; the Curatorial Department of the Louisiana State Museum, New Orleans; the Historic New Orleans Collection; Loyola University, New Orleans; and Louisiana's Division of Archaeology and Historic Preservation, Baton Rouge.

Documents from the French occupation of Louisiana available on microfilm at Loyola University in New Orelans and the Library of Congress in Washington, D. C. were useful. Local history tracts were largely obtained at the Local History and Geneology Division of the Library of Congress.

Map data were obtained largely at the Tulane University Library; the Bureau of Land Management in Alexandria, Virginia; the U.S. Army Corps of Engineers, New Orleans District; the U.S. Geological Survey in Reston, Virginia; and the Cartographic Department of National Archives in Washington, D.C. In one case clarification related to a primary document was obtained directly from the Archives Nationales, Paris. A review of historic maps, performed to locate cultural resources within the study areas, had largely negative results. The cartographic review and pertinent map data are presented in Appendix A.

Information pertaining to Harlem Plantation detailed in this chapter and in the Summary and Recommendations chapter was obtained at a number of locations. Conveyance records, notarial books, plat plan books, and court records of the 24th Judicial District were inspected at the Plaquemines Parish Courthouse, Pointe a la Hache, Louisiana. Other specific records of the plantation, including plan books and notarial books, were obtained at the New Orleans Notarial Archives, Civil Courts Building. Also useful in the study of Harlem Plantation were census records, 2nd District Court of New Orleans records, and the Index to Succession, all at the New Orleans Public Library Louisiana Collection.

Local informants and regional specialists in the fields of history, architecture, and archeology were also consulted as part of the background research for this report. A complete list of informants and specialists interviewed by Iroquois Research Institute is contained in the Sources Consulted section of the Bibliography.

## Prehistoric Cultural Development in the Study Vicinity

The prehistory of the eastern United States can be divided into three broad developmental stages. These are the Lithic stage, the Archaic stage and the Formative stage. Muller (1978) suggests the following period names for the region of the Southeast:

| | |
|---|---|
| Paleo-Indian | ca. 10,000 B.C. - 6000 B.C. |
| Archaic | 6000 B.C. - 700 B.C. |
| Sedentary | 700 B.C. - A.D. 700 |
| Late Prehistoric | A.D. 700 - A.D. 1540 |

These periods can be used to characterize the entire cultural sequence of the southeastern United States and have been further refined at the local level.

The earliest evidence of man's occupation of the New World has been grouped into a period postulated by Krieger (1964) as the Preprojectile Point stage or the Chopper-Scraper stage. This stage is reputedly characterized by large crude percussion-flaked tools that possibly represent an ancient substratum for later technological developments in North America. The sites associated with the Preprojectile Point stage are poorly dated and the evidence for this stage is presently tentative.

The earliest well documented human occupation in the Southeast occurs during the Paleo-Indian period. This period is distinguished by lanceolate projectile points such as Clive, Folsom, and Dalton points. On the Plains where the stage is more clearly identified, the economy was apparently oriented towards big game hunting and social organization and was characterized by small migratory groups. In the Southeast, the social organization was probably comparable, but settlement was apparently oriented more toward river valleys (Muller 1978; Byrd and Neuman 1978).

Almost exclusively the discoveries of Paleo-Indian activities in southern Louisiana outside of the delta complex have been made in the form of isolated finds on river levees and Pleistocene terraces. One exception has occurred at Avery Island where a subsurface Paleo-Indian component containing stone, bone, and wooden artifacts has been found near but not in definite association with Pleistocene fauna (Gagliano 1967). Another Paleo-Indian occupation has been reported at the Vatican site in southcentral Louisiana (Gibson and Servello n.d.). The paucity of Paleo-Indian evidence suggests that the number of people living in southern Louisiana during the Paleo-Indian period was probably small. The environmental changes at the end of the Pleistocene encouraged a change in the subsistence and settlement patterns that led to the Archaic stage.

The Archaic stage exhibits distinct cultural variations that are probably responses to local environmental conditions. An efficient broad-based subsistence based on hunting, gathering, and fishing developed, as well as a more complex technology as reflected in the artifact inventory (Caldwell 1958). Artifacts include chipped and ground stone tools, atlatls, grinding stones, fishhooks, and various projectile points. The large number of shell middens along the Louisiana coast

illustrates the importance of shellfish gathering as a basis for subsistence. Local phases of the Archaic stage in southern Louisiana have been identified by Gagliano (1963).

The distinction between the late Archaic and early Sedentary cultures is not as clear cut as the stage demarcations would imply. The Poverty Point complex exhibits characteristics of both, since it represents a continuation of patterns begun during the Archaic but with a number of innovations typical of the Sedentary period. Technological changes are evident such as microliths, baked clay balls, unique projectile points, steatite bowls and fiber tempered pottery.

Characteristic of the Poverty Point complex was the construction of large earthworks and mounds which imply greater sedentism and more complex social organization. Long distance trading networks developed within the Poverty Point period and items exchanged include steatite, copper, quartz, and galena. The level of cultural complexity has been hypothesized to have been the result of the introduction of maize agriculture (Ford 1969; Webb 1968), since a stable productive economy is usually thought necessary for this type of organization. There is a lack of evidence for the existence of agriculture, however, in Poverty Point contexts. It seems more likely that diversified exploitation of the abundant natural resources present in the area was adequate to support this social complexity (Brain 1971).

Richard I. Ford (1974) has suggested a model for a non-agricultural society requiring complex social organization that might be applied to the Poverty Point culture. He suggests that complex social status differences may have developed to insure exchange that would allow relatively permanent settlement and dense population despite the variability in production of wild foods within an area from year to year.

Characteristics of the Sedentary stage include the development of surface-textured pottery, sedentary lifestyles, more complex social organization, and the probable incorporation of agriculture into the economy. In coastal Louisiana, it is evident that environmental conditions inhibited the extent to which a fully sedentary adaptation could develop.

The majority of Sedentary stage sites in southeastern Louisiana are situated on the natural levees of bayous and rivers (Kniffen 1936; McIntire 1958), terrace edges, and ridges (Gibson 1978). This probably reflects the desire for dry, habitable land and the need for access to transportation along the water bodies. Sites were placed on areas that did not flood annually but that were occasionally inundated (Gibson 1978). These site locations may also reflect the value of the levees for horticulture (e.g., Haag 1971).

The initial Sedentary period within southern Louisiana is known as the Tchefuncte period. This period extends roughly from 550 B.C. to A.D. 100 and is characterized by an economy based largely on hunting, fishing and gathering. An innovation which becomes widespread during this period is grog or vegetal tempered pottery with poorly compacted paste. Although plain pottery is most common, decorated ceramics also occur with designs in curvilinear or geometric motifs.

The Tchefuncte artifact inventory includes tubular clay pipes, cut canine teeth, shell gouges, bone and antler tools, conch shell containers, and balls or cylinders of fired clay (Ford and Quimby 1945). Tchefuncte sites are noted by shell middens and small conical mounds and many sites are on old lakeshore beaches of Lake Pontchartrain and on the chenier plain around Grand Lake.

The Marksville period is a local Southeastern manifestation of the Hopewell interaction sphere (Caldwell 1964) that influenced much of Eastern North America from circa 100 B.C. to A.D. 500. Trade networks were very widespread and materials exchanged included mica, copper and galena artifacts. Unique artifacts attributed to this period are ear spools, platform pipes and elaborate cermaic decoration, such as zoned rocker stamping, curvilinear motifs and effigy figures. The culture seems to revolve around extensive burial complexes like those at the Marksville site in Avoyelles Parish and the Crooks site in LaSalle Parish. Differences are evident in southeastern Louisiana where large complexes are absent and sites of the period consist of isolated burial mounds and middens. Sites in the general study vicinity with Marksville components include the Gibson site in Terrebonne Parish and the Coquelle site in Jefferson Parish (Davis et al. 1979:51).

The Baytown period which follows Marksville is a transitional period between Marksville and Coles Creek. Many of the same traits are evident in Baytown and Coles Creek such as truncated pyramidal earth mounds and new pottery types, and they may be considered to be a developmental continuum (Davis et al. 1979:52).

Truncated pyramidal mounds first appear in southern Louisiana during the Baytown period. Although extensive shell middens characterize many Baytown sites, the economic basis of this period is not clear. One hypothesis is that the mound complexes were ceremonial centers for surrounding agricultural communities since they are located on crests of natural levees along the Mississippi River (Gagliano et al. 1975). Alternatively, Gibson (1978) hypothesizes that the rich and varied environment allowed communities to be supported solely by the intensive collection of natural resources.

The onset of the Coles Creek period is marked by an apparently drastic increase in the number of sites in southern Louisiana. Haag (1971) interprets this to be a result of population growth. It is also possible that the present evidence is misleading because earlier sites of the Baytown period may have been buried by alluviation or subsidence (Davis 1977). There is some evidence of seasonal exploitation and utilization of locations, such as Bruly St. Martin in Coastal Louisiana (Springer 1973), but better data are necessary for an understanding of the subsistence of the Baytown and Coles Creek periods. Coles Creek components exist at the Vacherie site in St. John the Baptist Parish and the Sims site in St. Charles Parish (Davis, personal communication).

Cultural continuity and elaboration are evident in the succeeding Plaquemines period that extends from A.D. 1000 to 1700. Quimby (1951) defined this period at the type site of Medora on the basis of traits such as plazas, truncated pyramidal mounds, and new ceramic types including

Plaquemine Brushed. The social and economic characteristics of the period become increasingly complex towards the latter part of the period. In the early part of the Plaquemine period, seasonal exploitation of different environments is evident with small groups congregating into large seasonal villages for the fall and winter (Altschul 1978).

Large villages located on broad natural levees are characteristic of the latter part of the period (Altschul 1978). Plaquemine components are known at the Fleming site in Jefferson Parish and at the Sims site in St. Charles Parish (Davis, personal communication). There are indications that maize was a part of the subsistence based at the Fleming site, though the evidence is tentative. McIntire (1958) suggests that there was a population decline in southern Louisiana during the Plaquemine period, but this may be a result of incomplete site data or the relatively short length of the period (Davis et al. 1979).

The Mississippian culture of the Late Prehistoric period (Muller 1978) represents the climax of cultural complexity which peaks between A.D. 1400 and 1700. Population began to concentrate in alluvial valleys (Williams 1956) where the cultivation of maize, beans and squash formed the subsistence base. Truncated pyramidal earth mounds and cermonial centers are characteristic of this period. The major changes in ceramics consist of the introduction of shell temper and design motifs associated with the Southeastern Ceremonial Complex (Waring and Holder 1945).

Mississippian component sites are not commonly reported from coastal Louisiana probably because of the lack of adequate farmland. However, several sites have been recorded including the Bowie site in LaFourche Parish, Avery Island, the Bayougoula site in Iberville Parish, the Fleming site in Jefferson Parish, and the Sims site in St. Charles Parish (Davis, personal communication).

The three study areas are confined to the batture or natural levee of the Mississippi River. These areas are subjected to disturbance in the forms of alluvial deposition, lateral bank migration, and subsidence (McIntire 1958). The land surface in the general study area is probably less than 1,000 years old and, as a result, only recent occupations would be expected to occur near the surface in the project area. The recovery of prehistoric remains would probably be limited to the Late Prehistoric period if cultural items were evident at all.

## Historic Development of Southern Louisiana

This historic overview of the study area concentrates upon general trends where site specificity is lacking in the archives. From the time of the first European explorations to the present day, most of the history of this area has been associated with an agricultural society.

Although Spain conducted explorations of the Mississippi Valley in the 1500's, present-day Louisiana saw no lasting European colonization until the late 1600's. At that time Louis XIV of France was anxious to secure additional portions of the New World free of British and Spanish influence. Hence in 1682 he commissioned Robert Cavalier de la Salle to

explore and claim territory in the Mississippi Valley. La Salle, who traveled south from Illinois, planted the flag for France, naming the area he explored Louisiana in honor of his king (Whittington n.d.; Taylor 1966; Desmond 1970).

Almost twenty years elapsed before the French undertook further exploration along the Mississippi River. In 1699, Louis XIV dispatched Pierre le Moyne, Sieur d'Iberville, to chart the region. After traveling to the Gulf, stopping at Mobile Bay and Biloxi, Iberville ascended the Mississippi River. He visited the Red River confluence and returned to the mouth of the Mississippi by way of Lake Pontchartrain. His brother, Jean-Baptiste le Moyne, Sieur de Bienville, accompanied Iberville until the return voyage, at which time he chose to continue down the Mississippi River (Whittington n.d.; Taylor 1966; Desmond 1970).

About fifteen miles south of present-day New Orleans, Bienville encountered a party of British explorers. Explaining that France claimed the territory, Bienville convinced the English force to depart. The incident led to the designation of this place as English Turn (Fortier 1909).

As Bienville explored the uncharted land along the Mississippi and Red Rivers, he encountered several Indian tribes. In 1699, Iberville visited the Avoyelles on the Red River as well as the Washa on Bayou La Fourche. There were several other Indian groups in southern Louisiana as well. The Chawasha Indians were found near Bayou La Fourche, along with the Chickasaws, who were located primarily between New Orleans and Natchitoches. The Tangipahoas occupied territory on the north side of Lake Pontchartrain while the Chitimachas resided between Bayou Teche and the Mississippi River (Whittington n.d.; Davis et al. 1979; Taylor 1966).

Indian groups apparently led a semi-nomadic life in southern Louisiana. They combined frequent moves with subsistence farming and hunting-gathering activities. Indian relocations were often the result of inter-tribal warfare or contact with European settlers. For example, in 1713, the Bayagoulas Indians settled near Vacherie in present-day St. James Parish. They moved to this area because the Taensa tribe drove them from Bayou Goula (Campbell 1977).

Although many Indian groups were in Louisiana at the time of the European explorations, the present boundaries of the state probably held fewer than 15,000 Indians in the early 16th century. Contact with white settlers soon reduced this total even further. Thus, as a result of disease, warfare, and migration from the state, little more than 500 Indians remained in Louisiana by 1900 (Taylor 1966).

French fur traders and trappers followed closely behind explorers in establishing contacts with Indian villages. Entering the Mississippi Valley shortly after La Salle, they traded with Indian tribes located along the river and its tributaries. They exchanged European products for such items as furs, pelts, bear oil, and dressed deer skins. The French subsequently transported the newly-acquired merchandise to the mouth of the Mississippi for shipment to Europe (Whittington n.d.; Taylor 1966; Desmond 1970).

Although traders were present in the Lower Mississippi Valley prior to 1700, the first permanent settlements did not occur until the beginning of the new century. Bienville was primarily responsible for the settlement of the Lower Mississippi Valley. While he originally established a capital at Fort St. Louis near Mobile Bay, he realized that this location was not suitable for protecting the colony from British or Spanish encroachment. Hence, Bienville ordered land cleared around present-day New Orleans in 1718 and moved the capital there in 1721. Meanwhile, other French colonists established a settlement in 1714 in Natchitoches on the Red River (Desmond 1970; Davis 1968; Carter 1968; Hansen 1971).

The selection of New Orleans as a capital was the driving force behind the beginning of the French settlement up and down the Mississippi River. The location was critical because it allowed France to control access of the Mississippi Valley to the mouth of the river and thence, to European markets (Desmond 1970; Davis 1968; Carter 1968; Hansen 1971).

In addition to establishing New Orleans for strategic purposes, the French also constructed a string of forts up and down the Mississippi River as a way to guard against Britain and Spain.

Owing to its strategic location with respect to New Orleans, Plaquemines Parish has figured prominently in Louisiana's military defenses. New Orleans was vulnerable to attack by war vessels sailing up the Mississippi. To guard its southern water approaches from such an attack, forts were erected at key points in the parish on both sides of the Mississippi. Even before New Orleans was established, the French, about 1700, constructed Fort de la Boulaye, sometimes called Fort Mississippi, at Poverty Point, about 38 miles below New Orleans on the east bank, not far from the Harlem Borrow project area (Bragg 1977; Wilson 1965; Davis et al. 1979).

Composed of a battery of six guns, Fort de la Boulaye was foredoomed to an early demise. Often the fort and its inhabitants would become swamped when the river level rose. The French abandoned the fort during the first or second decade of its existence (Bragg 1977; Wilson 1965; Davis et al. 1979).

At la Balize, the Beacon, situated at the mouth of the Mississippi, where the French maintained a depot for exchanging merchandise with Spanish merchants, a military post was started about 1721. When completed some 20 years later, Fort Balize was manned by a battery of four-inch cannon (Gayarre 1903; Wilson 1965; Bragg 1977; Davis et al. 1979).

In the mid-1750's the French constructed two earthen fortifications on opposite banks of the Mississippi at English Turn, about 15 miles downriver from New Orleans. Situated on the east or left bank was Fort Ste. Marie, Fort St. Leon being on the west bank. The cross fire from perhaps twenty cannon between them was calculated to deter attacks by hostile ships. Because of the sharp bend in the Mississippi at English Turn, 18th century sailing vessels could not continue advancing upriver

until the wind shifted in their favor. As ships waited for a favorable wind, they would become easy prey to the gunners of Forts Ste. Marie and St. Leon (Wilson 1965).

In addition to establishing a colony in the New World to offset British and Spanish colonization, Louis XIV initially hoped the colony would provide much needed gold and silver. When this failed to occur, the king franchised the colony in 1717 to a company directed by financier John Law. In 1719 Law reorganized the concern and entitled it the Company of the Indies. This company served as the catalyst to European settlement of present-day Louisiana. Although it went bankrupt in 1720, it continued to recruit colonists until Louisiana became a royal colony in 1731 (Stoddard 1812; Hansen 1971; Taylor 1966).

During the years the colony was controlled by the Indies Company, colonists struggled to increase their population. Populating the colony proved difficult; for example, in 1722 New Orleans contained a mere 200 residents (Desmond 1970). What few colonists there were faced diseases such as yellow fever or hazards such as inadequate supplies of food and other necessities. Farmers were vulnerable to unfavorable weather conditions and the Mississippi River frequently overflowed its banks and inundated agricultural land. Other natural disasters, such as a hurricane which struck the colony in 1721, destroyed much of the rice crop (Goodspeed Publishing Company 1892; Deiler 1969).

In an effort to obtain more colonists, the Indies Company granted land concessions to Europeans willing to move to the New World. The first concessions were located along the Red and Mississippi Rivers. The colonists prized this land because it provided easy access to river transportation and it was rich in alluvial soil highly suited to agricultural pursuits. These front lands nearest the rivers were easily worked, even with the most primitive implements (Lockett 1969; Shugg 1939).

The settlers who obtained land grants, many of whom were former French military officers, were required to clear the land and build a house within one year and a day. They were also obliged to construct levees, or dams, to protect the land from inundation and to build a public road upon the levee and construct bridges when necessary (Stoddard 1812).

French settlers raised subsistence crops such as corn and planted cash crops like indigo and tobacco. In the southern regions of modern-day Louisiana, the earliest colonists constructed cabins from vertically-positioned logs called poteaux en terre. They then plastered over the logs and constructed a thatch roof from palmetto leaves. The floor was simply pressed earth (Kniffen 1968).

As the colonists who obtained land grants established plantations and farms along the Mississippi and Red Rivers, other Europeans began to settle the colony. Because of a stipulation in its charter, the Indies Company had to fill the colony with 6,000 settlers and 3,000 slaves within ten years. Hence, some of the colonists the company recruited were indigents, political undesirables, or ex-convicts newly-released from prison. The company often arranged marriages for these individuals prior

to their debarkation from France. According to one author, the couples were "paraded through the streets of Paris, but whether to symbolize their relations or from fear of some attempt at escape, a small chain bound together each husband and wife" (Toupe n.d.).

Descendants of early French colonists were known here as elsewhere as Creoles. For the first one hundred years of Louisiana's history Creoles outnumbered Americans of Anglo-Saxon descent by two to one. As late as 1840 they predominated in the southernmost fifteen parishes (Shugg 1939).

The Indies Company also sponsored the importation of slaves. The first slave ships arrived in the colony from Africa by way of St. Domingo in 1720. In order to assure a constant supply of labor, the Indies Company outlawed the sale of slaves outside the colony (Gayarre 1919).

Since substantial numbers of slaves were needed on plantations, the slave population increased more rapidly than that of Europeans. By 1860 only the white majority in New Orleans kept the state of Louisiana from being predominantely black. Outside of New Orleans, blacks comprised 71 percent of the population (Shugg 1939; Carter 1968).

In addition to the French colonists and their black slaves, German-speaking Alsatians and Lorrainians immigrated to Louisiana during the early colonial period. These people had been recruited by the Indies Company and originally settled along the Arkansas River. In 1722 they traveled to New Orleans and demanded new supplies or passage back to Europe. During a conference with Bienville, they accepted his offer to clear land about 40 miles above New Orleans. They settled primarily along the right bank of the Mississippi in an area known subsequently as "La Cote des Allemands," the coast of the Germans, and known locally as the German Coast. This region is located in present-day St. Charles and St. John the Baptist Parishes (Deiler 1969).

During the early years of colonization, the economy of French Louisiana barely supported the population. The prevailing European philosophy of mercantilism held that colonies existed solely for the benefit of the mother country. As a result, colonies often suffered from financial neglect. For example, France set the price of tobacco from Louisiana and, even though the profit to planters was narrow, the government in France denied colonists the right to sell tobacco to other European buyers. Further, while France supplied colonists with only meager amounts of supplies most of its investment was allocated to the establishment of military forts (Gayarre 1919). Although these fortifications reinforced French claims to Louisiana, they did little to stimulate the local economy (Taylor 1966; Goodspeed Publishing Company 1892).

The problem of making the colony of Louisiana a valuable asset to France was discussed in a letter dated June 1, 1757 to France from Monsieur Accaron. A copy of this dispatch from the Archives Nationales in Paris was located in the Manuscript Division, Library of Congress. It reveals that colonists were able to grow crops of value to France, such as tobacco, but complained that there were too few ships calling at Louisiana for shipment of the crop to France. Accaron also noted that indigo was in

its infancy as a cash crop. He suggested that the only solution to bringing about a more profitable colony would be to convince French companies to invest more funds in Louisiana (Accaron 1757).

Louisiana was not a flourishing colony when Spain obtained a large part of the territory from France in 1762. Although New Orleans and all the French territory west of the Mississippi River were ceded to Spain that year as a result of the French and Indian War, the colony did not become one of Spain's more successful ventures. Like the French, the Spanish viewed the colony more as a means to offset British influence in the New World than as a valuable commercial property (Whittington n.d.). As had been true of France, moreover, Spain also failed to invest extensively in the colony. Hence, the colony continued to stagnate during the Spanish period. Madrid officially prohibited trade between Louisiana and France or any other markets except for Spain. As a result, fur trading, lumber, and indigo production had to compete for markets in Spain against the products of older Spanish colonies which generally supplied better quality goods. Consequently, the economy of Louisiana suffered (Deiler 1969; Cable 1884).

It was Spanish policy to increase the population of the outlying portions of the colony as a buffer against foreign competition. Some of the first arrivals came from modern-day Nova Scotia and New Brunswick. These Acadians had been forcibly expelled by the British during the French and Indian War, or Seven Years War, of 1756 to 1763. Colonel Charles Lawrence, Lieutenant Governor of Halifax, had ordered the Acadians to take an oath of allegiance to British King George II. When the French refused, Lawrence expelled all settlers regardless of sex or age and confiscated their property. As the Acadians were herded onto ships for removal from the colony, many families were separated, never to be reunited. The ships took the Acadians to widely scattered destinations, including the French West Indies, England, and France. Some of the emigrants eventually arrived in Louisiana, where their French compatriots greeted them warmly (Wrong 1938). Many of today's inhabitants of St. Charles, St. James, and Ascension parishes are from this stock (Desmond 1970). Their descendants are known in the vernacular today as Cajuns (Hansen 1971; Campbell 1977).

The Spanish imported Canary Island settlers to St. Bernard Parish and Malagans to found the town of New Iberia during the 1770's (Historical Records Survey 1938:4). They granted land to settlers in the lower portion of Louisiana at Grand Isle and Plaquemines Parish during the 1780's.

Several years later Spain welcomed new arrivals from the newly-created United States. Anxious to establish a buffer between Louisiana and British Canada, the Spanish granted American settlers free sections of land and also exempted them from taxation. The Americans generally settled in the northern parishes of modern-day Louisiana and in Spanish West Florida, which was located along the east bank of the Mississippi River north of Lake Pontchartrain (Kramer 1975; Hansen 1971).

During the Spanish control of Louisiana in the 1790's, Fort San Felipe, now called Fort St. Philip, was built on the east bank at Plaquemines Bend approximately 58 miles downriver from English Turn. Fort

Bourbon was erected on the opposite bank to provide a cross fire of cannon shot in conjunction with Fort St. Philip (Bragg 1977; Wilson 1965). From 1822 to 1832, the United States built Fort Jackson a short distance south of the ruins of Fort Bourbon (Bragg 1977), and maintained Fort St. Philip.

When the United States purchased the Louisiana Territory in 1803, after a brief period between 1800 and 1802 when Louisiana was held again by France, the territory entered an era of heretofore unknown prosperity. The port of New Orleans, now open to unrestricted American commerce, became the second largest port in the United States by 1860. The territory's transfer to the United States brought in more immigrants from other regions of the United States. Additionally, Louisiana was settled by further arrivals of Europeans. The overthrow of the monarchy in France and violent slave revolts in the West Indies in 1795 led to the arrival of additional Frenchmen. Immigration from the poorer regions of Ireland and Germany contributed additional European settlers to the territory during this period (Bragg 1977).

At the beginning of the American period Louisiana was still not fully settled. The cities of New Orleans, Natchitoches, Baton Rouge, Opelousas, St. Martinsville, Lafayette, New Iberia, Monroe, and Alexandria had been established during the colonial period. Many sections of the state, however, were still largely uninhabited (Bragg 1977).

During the American period, the cultivation of sugar as a cash crop became an important aspect of Louisiana's economy. In the southern parishes, sugar soon became dominant, even though cotton, planted in the northern provinces, provided more income for the state (Cable 1884; Gibson 1838). The rise of a sugar aristocracy had great effect on the cultural and economic development of Louisiana.

Initial production of sugar had begun in the French period. Jesuits in New Orleans first planted the cane from seeds obtained from St. Domingo in 1751. Sugar planting was not generally profitable, however, until the development in 1790 of a process for extracting increased amounts of sugar from raw cane. This process, first exploited commercially by Etienne Bore, allowed the rapid expansion of the sugar industry. By the time of the Civil War, the southern sugar provinces of Louisiana supplied the United States with 459,410 hogsheads of sugar (Bouchereau 1869).

Sugar plantations soon proliferated along both sides of the Mississippi River. By the late 19th century they were found from 180 miles north of New Orleans to about 60 miles south of the city. This area of rich alluvial soil proved extremely well-suited to sugar cultivation (Schmitz 1974).

Sugar plantations bore a striking resemblance to one another. Those located immediately along the Mississippi River were often constructed at right angles to the river on narrow strips of land called rangs, colonial land features easily recognized today by air travelers flying over original French land holdings along the Mississippi and St. Lawrence Rivers. A levee with a road upon it was constructed inland from the

riverbank (Reclus 1855). The planter's house stood behind the road. In order to protect it from periodic flooding of the river, planters often built the house on brick piers several feet above ground. Many plantation houses followed the Greek Revival style of architecture after 1830 and until the Civil War (Desmond 1970).

Plantation homes were often two stories high with wide galleries spanning the second level. These provided respite from the oppressively hot weather. The galleries were often supported by white columns, a style called aux quatre vents. The houses were also often surrounded by oak trees which provided much-needed shade.

Near the manor house, planters constructed outbuildings, kitchens, and offices. The overseer's house and slave quarters, which formed either a single or double row of frame or brick cabins, were occasionally found further inland from the river (Reclus 1855; Hansen 1971).

The sugar house, around which the activity of the plantation centered, was usually located near the slave quarters. By 1850 most sugar houses used steam instead of horse power. Sugar houses almost always had long narrow chimneys. After 1840 many planters used a vacuum pan for boiling the juice instead of the open kettle of earlier days (Kniffen 1968; Schmitz 1974).

Cane fields were often arranged in squares. According to a visitor of a sugar plantation in 1856, the rows of cane resembled green magnolias (Reclus 1855). The fields were enclosed in a fence to separate the cane from uncultivated cyprus groves or marshes. Finally, a road was found usually at the back end of the plantation with ditches to drain off excess water from the field into the backswamps (Reclus 1855). Additional drainage ditches were often excavated through the cane fields to increase harvests.

While planters concentrated primarily on the production of sugar, they also cultivated subsistence crops such as potatoes and corn. Thus they were basically self-sufficient, but planters also did require supplies from other locations. They obtained these supplies in various ways. Steamboats which stopped at each plantation along the Mississippi River delivered goods from New Orleans (Schmitz 1974; Swanson 1975). Planters also obtained produce from neighboring non-slaveholding farmers. Peddlers, or colporteurs or marchands, likewise delivered supplies. Finally, planters often relied upon the services of local hired workers or skilled artisans to augment the work of resident slaves (Sitterson 1953; Shugg 1939).

Sugar plantations were economically the dominant agricultural producers of the area, but non-slaveholding farmers comprised the majority of the white population in the sugar parishes. Often of Creole, Cajun, Anglo-American or German descent, these farmers cultivated subsistence crops such as corn and potatoes. Most of the lots comprised fewer than 50 to 100 acres, and produced crops for the consumption of the immediate family. Any excess crops were sold to plantations or taken to New Orleans for sale in small markets (Shugg 1939).

In 1850 three out of four rural holdings in the sugar parishes were classified as farms. However, plantations contained approximately seven times the acreage. This superiority of acreage permitted planters to assume a political and economic dominance over farmers (Shugg 1939).

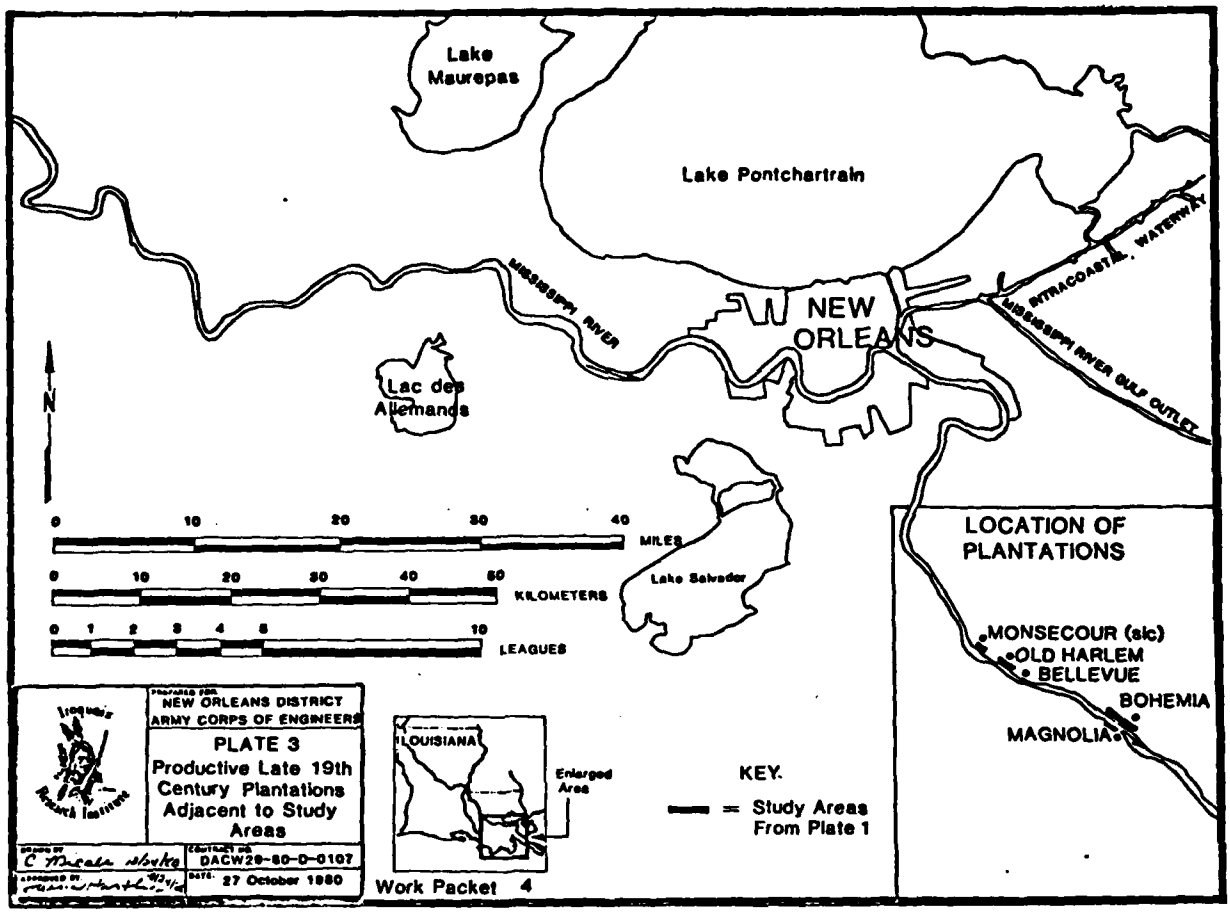
During the Civil War sugar production continued along the Mississippi River. The price of sugar raised very high during the war. In the late 1870's, production increased rapidly due to mechanization after a slowdown caused by labor problems associated with the freeing of slaves. By 1890 production reached its second highest output since the introduction of sugar planting (Sitterson 1953; Goodspeed Publishing Company 1892). There were several reasons for this growth. First, although tenant farming became common after the Civil War, plantations were often not divided but instead frequently increased in size. Large corporations, with considerable assets from northern investors, consolidated holdings. Even more importantly, the industry specialized after the Civil War. Central factories, often located in New Orleans, began to manufacture sugar. This innovation separated cane cultivation from sugar production. Technological advances such as improved fertilizers and improved farm implements also modernized the industry. Finally, planters cleared more acreage for sugar production in the back lands further from the rivers (Sitterson 1953).

While blacks still comprised a large part of the work force on sugar plantations after the Civil War, planters also recruited laborers from among recent immigrants from Europe.

As Louisiana entered the 20th century, sugar began to wane as a cash crop. By 1926 the sugar parishes produced less than 50,000 tons of sugar as compared to 400,000 in 1904. The generally depressed state of farming in the United States in the 1920's exacerbated the decline of sugar plantations and throughout the decade output remained low. By 1930 more than 42 percent of all sugar farms of over 1,000 acres were no longer in cultivation. With federal assistance, sugar production saw a slow recovery in the 1930's, but the golden days of high profits were gone (Sitterson 1953). As sugar production declined, many plantations along the Mississippi were divided up into smaller plots or simply abandoned (Davis 1968). Other plantations in the southern sugar parishes were turned over to rice or citrus fruit production.

In the decades following the Civil War, rice became a major cash crop in the general study area (Goodspeed Publishing Company 1892). Often cultivated on lands previously reserved for sugar, rice gained favor because it was well suited to poorly drained soils in Plaquemines Parish. Workers, many of them former slaves, tapped the levees and constructed a pipe or rice flume through the levee to flood the land. They planted seeds in late March, flooded the fields, drained and dried the land, then flooded them again. After a long period of drying, workers flooded the fields again in September. They subsequently cut the rice, tied it, and stacked it to dry (Stampp 1956). During portions of the late 19th century, many plantations in Plaquemines Parish were turned over completely to rice production (Bouchereau 1869-1899).

In the late 19th century, five large sugar and rice plantations existed adjacent to or within the study areas surveyed for this project. Monsecour, Harlem, Bellevue, and Bohemia Plantations were situated along the left bank of the river and Magnolia Plantation was located on the right bank. The locations of these plantations are shown on Plate 3.




Harlem Plantation, originally known as Old Harlem Plantation, exhibits a development that closely reflects the larger history of plantation agriculture in southern Louisiana. Archival records exist recording the history of this plantation that allow a detailed record of its development and internal operations to be presented.

## The Development of Harlem Plantation

The tract of land which eventually became Old Harlem Plantation was being farmed in Plaquemines Parish by 1800. The thirteen-arpent-wide tract had been given as a land concession during the Spanish regime by Governor Etienne Miro to Santiago Billaud between 1782 and 1790. It was Spanish policy at this time to increase settlement through regular and orderly administration of unclaimed lands. Billaud sold the property in

1790 (Pedesclaux 1790) to Pedro Gautier, who cultivated the land for several years before his death. In 1806 his testamentary executor, Francis O. Duhig supervised an auction of the property to John Lanthois, a Frenchman who lived alternately in New Orleans and at Montpellier, France (Brown 1806).

Lanthois paid $1,795 for the property, which was designated a "plantation" when he purchased it, as opposed to a "tract of land," which would have been the designation for an uncultivated property (Pedesclaux 1805a, 1805b, 1806). It was, however, not a profitable venture for Lanthois who by 1811 had spent more money operating the plantation than he had buying it. From his home in France he wrote on January 26, 1810 to James Pitot, his New Orleans attorney:

> I already foresaw, dear Pitot, all you tell me about my Plantation! It certainly would be much better I had never bought it, for the expenses have almost doubled the first cost; but it is done and you must now either sell or give it away! Cornen might accomodate himself with it...

This Cornen that Lanthois spoke of was Jean Marie Cornen, the adjacent downriver plantation holder, the Judge of Plaquemines Parish. Apparently, he did not want it either.

Pitot accordingly arranged for a sale within the next year and a half. The thirteen-arpent plantation was then purchased, probably as a short-term investment, by partners Zacheus Shaw and William Swan, in June of 1811 (de Armas 1811). Shaw and Swan may have been Americans attached to the U.S. Military, which during the period prior to the outbreak of the War of 1812 was busy reconstructing the fortifications in Plaquemines Parish. Shaw was a doctor and Swan a "U.S. Military agent," and both were described as residents of Plaquemines Parish in 1811 (de Armas 1811).

The partners retained the property about a year. Having paid five dollars more for it in 1811 than John Lanthois had in 1806, they had mortgaged "all the houses and improvements" on the plantation to Lanthois. They probably took off a rice crop before selling it in May of 1812, and they may have made substantial improvements. Their first act of enlargement, nine days after purchasing the 13 arpents, was to add eighteen adjacent arpents to it, acquired from two Plaquemines Parish bar pilot partners, William M. Johnson and George Bradish (Meyer 1965, Baudier 1944).

The new eighteen-arpent adjacent tract was apparently lacking buildings at the time that Shaw and Swan bought it. Its value, however, had just about tripled in the preceding six years. Fourteen arpents of it had been a Spanish land concession of 1782 and 1787 by Governor Miro to Pierre Andre Giraud; and Giraud had inherited another four arpents about 1800 from his son Antoine (Pedesclaux 1805a). Giraud then sold it for $1,700 to the famous lawyer Edward Livingston in January 1805 (Pedesclaux 1805a). Livingston resold it to the equally famous Daniel Clark in August of the same year for $300 more (Pedesclaux 1805b).

Livingston was a distinguished New Yorker who settled in Louisiana to practice law and became involved in the development of Louisiana into statehood. He was later to be the Secretary of State under President Andrew Jackson. Livingston spent many years in Louisiana and was one of the New Orleans attorneys for Jean Lafitte (Swanson 1975). He was the brother of Robert Livingston, who negotiated with Napoleon and James Monroe for the Louisiana Purchase.

Livingston's friend and compatriot was Daniel Clark, who rose from a clerk's position in the commercial firm of his uncle in New Orleans in 1786, to the position of American Consul to Spain, and who at one time owned a large portion of the Bayou St. John area of New Orleans. His position as political arbitrator between the Spanish and American governments during the 1790's was pivotal. He persuaded the Spanish Intendant Morales to permit American vessels to export the produce of the colony by paying the same duty as the Spanish. He was also responsible for negotiating trade rights for Americans at the crucial New Orleans Port prior to the Louisiana Purchase (Pedesclaux 1927).

Daniel Clark held the tract only a year, but made a profit of $1,000 on it when he sold it to the bar pilots Johnson and Bradish. What these Americans were attempting on the lower reaches of the Mississippi can probably be surmised by considering the increasing trade with the American midwest made possible by the Louisiana Purchase through preparations for war with England, and by the need for trade depots below English Turn, a formidable bend for sailing vessels.

During this period, between the Louisiana Purchase and the Battle of New Orleans in January, 1815, Plaquemines Parish was the setting for much residential and commercial development and a substantial amount of government investment in fortifications. Plaquemines was designated a civil parish in 1807, retaining the name that had been in use there since French Colonial times. Fort St. Philip, originally built by the French at Plaquemines Bend, was rebuilt by the U.S. Government as protection against the British fleet in the War of 1812, and was visited by Andrew Jackson in December, 1814 (Works Projects Administration 1939). Fort St. Leon was also rebuilt at English Turn (Meyer 1965). Many American and English settlers and plantation owners (such as Edward Livingston, Daniel Clark, Bradish and Johnson, Samuel Packwood, Benjamin Morgan, Bailey, and Rinker) purchased land at and below English Turn (Pedesclaux 1807-1812; de Armas 1807-1812). General James Wilkinson established Myrtle Grove Plantation about the time of the Battle of New Orleans (Baudier 1944):

> ... within twenty-seven miles of New Orleans... the plantations, interspersed with sawmills, sugar refineries, and small cultivated areas of vegetables, were so close together as to create the impression of one continuous settlement. Owing to the narrowness of the cultivable area on the left bank, approximately five-sixths of every holding extended back into the swamp (Works Projects Administration 1939).

It is thus not surprising that Dr. Shaw and William Swan made a good profit in one year after combining the thirteen and eighteen-arpent tracts they bought in 1811. They sold them as one property in May of 1812 for $9,020 or $2,150 more than their purchase price. This sale, for the first time documents the existence of a dwelling house on the land that was to become Harlem Plantation. There were also "other houses and buildings, fences, woods, trees, way and watercourses" (Pedesclaux 1807-1812; de Armas 1807-1812). The 1812 purchaser would become, with his family, the major developer of Harlem Plantation. He was John C. Wedestrandt, "merchant of New Orleans" (Lynd 1812), who neither married nor lived on the place. He was actually a resident of St. James Parish (Gordon 1827b). Wedestrandt must have cultivated the plantation in absentia for the next fifteen years, between 1812 and 1827. Plaquemines Parish continuously grew after 1815, but no records have been found that Wederstrandt lived in Plaquemines during this period.

Wederstrandt, however, had a brother, Philomen Charles Wederstrandt, who was married with five children. In 1824 Philomen had severe financial difficulties involving a loan he had made with the Mechanics Bank of Baltimore, and he lost a judgement by the District Court putting him in default of the loan. He owed $13,880 in 1824, and by 1827 still had not made arrangements to pay (Gordon 1828a).

Perhaps because of these financial difficulties, John Wederstrandt decided in 1827 to donate the Plaquemines Plantation to the children of Philomen and his wife Helen Smith Wederstrandt. This he did by an act of intervivos donation April 5, 1827 (Gordon 1828a). The arrangement kept the property safe from the creditors because its ownership was vested in the children, but it did not insulate from the creditors the profits from the crop.

Thus in July of 1828, Philomen Wederstrandt finally made an arrangement with the Mechanics Bank of Baltimore to begin paying off his debt in $1,500 annual installments made "from the proceeds of the crops of the plantation in Plaquemines Parish belonging to the minor children of P. C. Wederstrandt, on which he now resides" (Gordon 1828a). The payments were to begin with the crop of 1829.

The day after Philomen Wederstrandt made the arrangements to begin paying off the bank, he remained in New Orleans and went to the Bank of Louisiana to borrow $6,000 for a year, secured by the Plaquemines property "and its commodities" (Gordon 1828b). This loan was no doubt to finance the coming year's crop, as implied by its short term. The very next day, July 17, 1828, Philomen remained in the city to purchase a thirty-year-old slave named Ellen. She was "warranted free of mortgages and vices and maladies provided against by law, but somewhat addicted to drinking" (Gordon 1828b).

Philomen Wederstrandt and his family had apparently moved from St. Bernard Parish to Harlem Plantation between March of 1827 when he was identified as a resident of St. Bernard Parish (Gordon 1827a), just before his brother's donation to the children, and July of 1828 when he made the arrangements to pay the Baltimore bank and was identified as residing on the plantation in Plaquemines belonging to his children. Prior to that

time he had been supervising the plantation for his brother, because he received an unspecified payment from John Wederstrand in 1827 "for all labor done, improvements made and monies expended for the use of John C. Wederstrandt" on the Plaquemines property (Gordon 1927a). After that, Philomen Wederstrandt lived there until he died, about 1859.

By 1830 the Wederstrandts were firmly established on Harlem Plantation, and according to the U.S. Census of 1830, their household consisted of 70 persons. This was the twelfth largest household of the 220 households listed in Plaquemines in 1830. There were three white males living there between the ages of 15 and 40, and two between 60 and 70. There were three white females under five years of age, and two between the ages of ten and fifteen. There were 38 male slaves, and 22 female slaves (U.S. Census 1830, I:188).

Of the Wederstrandt children who grew up at Harlem Plantation, there were five girls and one boy. They were Helen Maria, who later married J.D. Johnson; Margaretta Smith, who married the New Orleans judge, Isaac E. Morse; Theodora Rebecca, who married Pierre E. Boyer, and died before the Civil War; Mary Blake, who died in 1846; and the only boy, John Charles Perry Wederstrandt. These children would retain Harlem, through purchase and inheritance from one another, until 1867(Pedesclaux 1867b). Thus it is certain that the Wederstrandt family lived at Harlem during the 1830's and 1840's. They named their house for the town of Old Harlem.

Philomen C. Wederstrandt's only son, John Charles Perry Wederstrandt, had been born in 1823. At an early age he lived at Harlem, as cited in the act of donation of the property from his uncle in 1827, but by the time he was twenty years old he had become a doctor and moved to New Orleans, where he purchased a home newly built in a prominent American neighborhood across Camp Street from St. Patrick's Church. By 1852 he was no doubt doing well professionally, for he retained the most prominent local architect of the day, James Gallier, Jr., to build an office building next door. His home was resplendently furnished, and his office filled with medical and literary books (Drouet 1864a).

Dr. Wederstrandt bought out his sister's interest in Harlem Plantation (Pedesclaux 1851) and continued to operate it with his father probably serving as manager. Champomier's Statement of the Sugar Crops made in Louisiana, 1849-1859 lists Philomen C. Wederstrandt as producing 252 hogsheads of sugar in 1851-52, 268 in 1853-54; 412 in 1854-55; 210 in 1855-56; and 263 in 1858-59. His bumper crop in 1854-55 was probably due to favorable growing conditions as many of the neighbors also doubled their production that year.

Philomen Wederstrandt died about 1859, and in May of that year, Dr. John C. Wederstrandt, the son, purchased his sister's interest in the estate of their father. His estate consisted mainly of slaves, because the land and buildings were already owned by the children (Graham 1859).

After the Civil War broke out, Dr. John Wederstrandt was living in New York. He may have been a Union sympathizer. He was in very bad health and left the operations of Harlem Plantation to his brother-in-law John W. Smith. Nevertheless, he was worried about the financial problems of Harlem Plantation, for he was heavily in debt (Drouet 1864b).

New Orleans and Plaquemines Parish had fallen to the Union forces under Admiral Farragut in 1862. The Union Army was visiting plantations in the occupied territory and conscripting slaves into the Army. This practice had left the sugar producers short of hands, a problem which became critical in the fall of the year when the sugar cane had to be cut, ground, boiled, barrelled and shipped. Dr. Wederstrandt alluded to these problems in a letter to the plantation dated November 10, 1863, from New York.

Dear Major,

I received your very kind and interesting letter of the 7th instant. I highly approve of your idea of going to Harlem and keeping a watchful eye over the sugar. In the absence of some of the heads of departments it would be very easy for some dishonest person to make (a)way with a good deal of it. We have more to fear at present that such might be the case in this distracted state of the country than we ever had before.

I thank you and all my friends for having made such strenuous exertions to save the negroes from being forced into the army yet I still cherish the hope that we may be able to substitute other negroes less valuable to us for those taken away. I was disappointed to learn that Scott had volunteered preferring the army to his mother and father, sisters and brothers. I was also very much grieved to learn that Tom Rhodes had set the example striking for higher wages; he has always been a grumbler, a beggar, and had a discontented disposition. I am at a loss to know what advice to give on this subject. I presume we shall eventually be compelled to do for our negroes and compensate them in the same way as our neighbors. But being away from Louisiana and not knowing what is done to prevent these strikes I leave it to the judgement of Dr. Egan and Mr. Cazenave to decide what we had best do. Knowing that you will assist them with your advice as far as you can. It is of ... importance that we should continue to make crops at Harlem for if we make no crop there will be not a cent of revenue to meet the heavy interest payments which I have annually to make and which amount to over $13,000 without counting nearly $21,000 which Harlem owed to Mr. Cazenave after the last crop was sold on the 1st of May last.

In these times here our affairs are in such a desperate situation we are compelled to make Herculean exertions to keep the crops going, otherwise the interest added to the heavy debt will amount to all I have in the World...

> I think that owning the land and appliances for making sugar we might be able to obtain hired labor and continue to cultivate sugar as successfully as the Northern contractors who farm confiscated plantations are able to do. Even in the event of all our people leaving us we might hire labourers without wives or children and with the present increased prices make sugar enough annually to meet interest and expenses.
>
> Now for myself; I am going down every day, I have not been out of the house for a week during which time it has been raining... (Pedesclaux 1867b).

A few days later, Dr. Wederstrandt wrote again, this time to his agent Cazenave in New Orleans:

> Dear Sir:
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> ... I am please to know that things at Harlem at present are going on satisfactorily. It pains me much to lose the seven boys who were forced off the plantation into the army. There are several of them that I would not have sold in the best of times for their weight in gold and separated them from their fathers and mothers, sisters and brothers. I suppose however we will be able to take up the crop without their assistance or if necessary we might employ substitutes for them as we did last year. I see by the papers that sugar and molasses are now commanding higher prices than I ever have gotten before; I hope that this increase in price will enable us to pay our interest and expenses and perhaps reduce a little the principal of the debt... I hope the plantation will make the double of what it did last year when more than half of it was overflowed by the Doyle crevasse..
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> My health has not at all improved... I suffer with great weakness, shortness of breath and an almost constantly sick stomach. I am very much wasted away... Please tell Dr. Egan in case he employs white labour to use the negroes for mule drivers instead of the whites as they understand better how to take care of them... (Pedesclaux 1867b).

This letter, written November 13, 1863, is the last evidence of John Charles Perry Wederstrandt. He died the following February in New York. Cazenave was appointed his executive testamentary executor, and his succession was opened in the New Orleans courts. His creditors were subpoenaed and met in November of 1864. Because of the enormity of Wederstrandt's debts, it was decided by all that his three plantations in Plaquemines Parish, all of their equipment and moveables, and his properties in New Orleans should be sold to pay the debts (Drouet 1864c).

Wederstrandt at that time owned not only Harlem, but the plantation on each side of it. His properties in both Orleans and Plaquemines Parishes were inventoried by the authorities in 1864. At Harlem there were buildings, stock, machinery, equipment, and commodities. There were 145 "colored people" living there, but were listed at no value because they had been freed. There were two "American horses," 48 mules, 17 cows, 25 yearlings, 3 young calves, 15 working oxen, 13 three-mule carts, 5 ox carts, 18 two-mule ploughs, 6 four-mule ploughs, 3 six-mule ploughs, 34 cane knives, 6 harrows, one wheel barrow, 54 collars, 42 bridles, 42 pairs of chains, 44 pairs of trace chains, 39 curry-combs, 44 hoes, 16 axes, 13 grubbing hoes, 13 spades, 8 shovels, 15 cart saddles, 3 cross-cut saws, one whip saw, 8 scythes, two old 2-horse carriages, one 4-wheel buggy, a lot of household and kitchen furniture, a lot of books, 91 empty sugar hogsheads, 73 empty molasses barrels, 2 barrels of Bi-Sulphit, 1,000 barrels of coal, 75 cords of wood, 3,200 hogshead staves, 300 barrels of corn, a coil of cable, and a corn sheller (Pedesclaux 1867b). The value of lands and improvements and equipment in Plaquemines was nearly $86,000.

While succession proceedings continued interminably, one heir contested the estate, and debtors claimed pieces of machinery. By 1865, the plantation still had not been sold to pay the debts. Cazenave supervised the finances of the estate from New Orleans and an overseer named J.J. Walker ran Harlem Plantation. In the year 1864 Walker wrote to Cazanave every few days, reporting on the crops and weather, requesting provisions, and asking for instructions. Walker put the letters on the steamboats that stopped at the plantation landing every few days, and Cazenave did the same from his New Orleans office. Large amounts of provisions were ordered every week by the overseer.

Walker discussed the cotton crop, the worms on it, the lack of timely rain, and the labor. He discussed the cane as it grew, ordered barrels, and discussed the provisions sent by Cazenave. On April 10 he had the "corn and cotton seed all in the ground," and on the 25th "a beautiful stand of cotton and corn but the cane is heavy backward." In May he was sorry to report he "had no further use of Mr. Chexnider's (Schexnayder) services on the plantation. He was not willing to act or due (sic.) for the capacity of business required of him and more over he has tride (sic.) to excite the negroes against me..."

On May 22 the Steamer Nebraska brought a letter that the cane was doing well because of a good rain. On May 28 he requested "Please send me down one more bolt of brown cotton and one of blue for to make prints for boys and some old men and six more pear (pair) shovels and one pound of lacks (flax) thread. The calico you sent was a veary pore artickel (sic.) the negro women blame me for it and some was veary (sic.) insulting to me for giving them sutch (sic.) for to work in. They say it will not last them over a week."

And so the letters continued for over a year. Forty-seven of these letters in the succession papers of J.C.P. Wederstrandt paint a full picture of the work and problems of Harlem plantation for an entire year as the Civil War came to a close. Thirty-eight receipts in the Succession papers document the provisions and implements Cazenave purchased in 1864 to be shipped by steamer to Harlem Plantation. They include foodstuffs

from pork shoulders to sacks of coffee and barrels of flour; sacks of corn sent when the crop did not provide the current need; casks of whiskey for Mr. Walker charged to his own account; dozens of head locks; bolts of cloth: Georgia plaids, Indianhead, Marlboro stripes, head hooks, flax thread, bone buttons, spools, needles. There were kegs of nails, soap, 80 pairs men's and women's shoes, and so on. There was also a receipt from the Steamer Hetty Gilmore for passage of Boy George Thomas from New Orleans to Harlem. This former slave had been conscripted by the Union Army and was subsequently rejected.

Harlem Plantation at this time was subject to Freedmen's Bureau proclamations that all former slaves working on plantations in occupied areas had to be paid $10.00 per month wages. The "Payroll of Laborers Employed by the Estate of J.C. Wederstrandt at Harlem Plantation, Parish of Plaquemines" lists 82 laborers and the disbursements made to them. This payroll provides an insight as to the workforce at Harlem in 1865 (Pedesclaux 1867b).

Another account of "Disbursements made for Harlem Plantation by P. Cazanave..." from December 1864 until February of 1866 provides a complete list of plantation supplies, provisions, and many activities for more than a fourteen-month span during the Civil War (Pedesclaux 1867b).

In January of 1865, the Plaquemines sheriff came to auction moveables from the house and from the grounds. Sold were 900 barrels of corn made that year, 2 maps, one cooking stove, one bedstead, one rocking chair, one small rug, one mosquito frame, one book case and books, one set of harness, one china candlestick, one candle snuffer, two glass shades, two flower stands, one lot of old books, one side board, one hat rack, one bureau, one clock, one old carriage, one corn sheller, one old washing machine, one lot of coal oil lamps, 10 gallons of coal oil, one sheet of India rubber (Pedesclaux 1867b).

The sheriff's sale of moveables brought $2,248.95. Such were the remains of the contents of the old Wederstrandt home at Harlem. War, death, and debts had brought the end. The property itself was finally auctioned by the sheriff on June 27, 1867.

The sheriff's auction of land and immoveables provides a thorough inventory of the buildings that the Wederstrandts had used at Harlem during the prosperous decades prior to the Civil War. It was a complete and internally self-sufficient community, consisting of

> One dwelling house and kitchen; two cisterns; servants' rooms and six other small buildings; one brick sugar house and machinery, in good order; two batteries, one in good order and the other wanting repairs, is attached to the same machinery; also, one corn mill, one cooper shop and tools, one kitchen and washing room, one store room, one draining machine, one large building for hospital, one blacksmith shop and tools, one carpenter shop and tools, eleven laborers' cabins large enough to contain (150) one hundred and fifty laborers, two corn houses, one large stable with hay loft, overseer's house, kitchen, fifty head of cattle...

The buyer in 1867 was a businessman to whom the estate was indebted. He was Benjamin W. Huntington, who paid a mere $26,000 for Harlem Plantation (Pedesclaux 1867a). It would never be owned by the Wederstrandts again.

Huntington did not retain the plantation long, but he did succeed in making a small sugar crop of 177 hogsheads in 1868-1869 (Bouchereau 1869). This was about two-thirds of what Harlem had made on the average in better years, but less than two-fifths of the 500 hogsheads that it was capable of making and had made in 1861-62 before labor trouble began. Huntington did better in molasses, making over 10,000 barrels in 1869, and he made 200 barrels of corn. The sugar house used the steam and kettle method to make sugar and molasses (Bouchereau 1869).

In 1868 Huntington transferred title of Harlem to his wife, Eliza Wade, in settlement for some paraphernal debts (Cuvillier 1868). Eliza gave him power of attorney (Cuvillier 1868) to run the business. They evidently did not live there, but lived in New Orleans and in Natchez, Mississippi (Cuvillier 1870a).

In 1870, Eliza sold the property to Victor Meyer (Cuvillier 1870b) for $25,000. Meyer was just turning the property over and sold it in October of the same year (Cuvillier 1870c) to Edward Smith. Smith paid $80,000 for the property, an indication that Meyer and Eliza Huntington must have settled a debt in agreeing on the low price of $25,000 for two plantations, Harlem and its upriver neighbor Fantasie, the same year. By the time of Smith's purchase, the main house may have been unused and deteriorating. Although buildings are mentioned in the sale, the emphasis was on the sugar house and the farming machinery:

> Sugar house, machinery, cane and corn, 40 mules, a cow named "Strawberry" and her calf, one young steer, 10 cane carts, an old and damaged ox cart, all the old carts and wheels, number not known, all the plows, one corn planter, harness for carts and plows, all the tools and implements (Cuvillier 1870c).

During the ensuing 14 years, Smith struggled to operate Harlem against severe financial odds. He produced no sugar in 1871, 1872 or 1873, and the sugar house burned in 1873 or 1874. That season he produced only rice. He made rice and sugar the next two years but none of either commodity in the 1877-78 season. By 1879 he had rebuilt the sugar house and by 1882-83 was again producing a respectable crop of 370,000 pounds of sugar and 280 hogsheads of rice. The following year he made 300,000 pounds of sugar and had increased his rice production to 214 barrels (Bouchereau 1871-1884).

During Smith's ownership he entered into more than ten mortgages to finance Harlem's operation. He borrowed from commercial firms in New Orleans and from individuals engaged in the business of financing agricultural crops. Charles P. McCan, a financier who actively engaged in money lending for plantations throughout southern Louisiana (Hero 1882)

was one of Smith's major lenders. McCan foreclosed a mortgage on Harlem in 1881, receiving title to the property (Pedesclaux 1881); Smith bought it back the following year (Hero 1882), but finally lost it permanently in a sheriff's sale of 1884 (Pedesclaux 1884).

During Smith's ownership the plantation continued to produce rice, sugar, and molasses, and the sugar house was operating. It and other buildings were specified in the sheriff's sales of 1881 and 1884, along with the mules and carts and tools and cattle. There was more equipment than had been described in the 1870 sale.

After an intervening owner of 1885, Charles McCan's father David C. McCan, purchased Harlem and held it for two years. At this time it is probable that only the overseer and laborers lived there. The main house was probably deteriorating. It is apparently not among the structures shown on the Mississippi River Commission chart compiled in 1875 and may have been in ruins. It may also have been damaged by the hurricane of 1871 which passed over Plaquemines and had severely damaged other buildings in the parish (Baudier 1944).

McCan sold Harlem in 1887 to three investors who were assembling large tracts of land in Plaquemines for a milling and planting company. They were three Jewish residents of New Orleans, Simon and Isaac Haspel and Aaron Davis (Hero 1887). They incorporated a firm known as "Haspel and Davis Milling and Planting Company" in 1888 (Dreyfous 1898), and by 1889 they owned more than thirty-two plantations in Plaquemines (Dreyfous 1899).

In 1910, Haspel & Davis Co. sold Harlem to Charles W. Buckley of Lake County, Illinois (Marx 1910). Buckley and his family company, Terrebonne Land Development Company, owned the property for the following thirty-six years, until it was purchased by the family of the present owners. During Buckley's ownership Harlem house was probably extensively repaired, although further research is needed to document these changes. The interior may have been fitted throughout with narrow matched beaded boards covering the walls, the dormers repaired, and the chimneys replaced with contemporary brickwork during this time. The old mantels and floor plan, however, were probably retained. A stairs may have been added on the interior, as well as a rear porch. A small building which was probably a separate outbuilding from the plantation complex was probably brought up and attached as a projecting rear wing. Its classic style pedimented gallery with molded box columns remains.

During the 20th century the levee was moved back twice in front of Harlem Plantation, aligning the house closer to the river.

John B. and Florian S. Lopez purchased Harlem in 1946 and lived there with their four children. Two of the children report that during their lifetimes the old stable on the property stood, as did several of the original slave cabins and the overseers house. No changes were made to the house by the Lopez family, however some cattle corrals were built on the property (Beverly Lopez, personal communication). As late as 1962, four of the old slave cabins were still visible on the U.S. Geological Survey of Pointe a la Hache 15 minute quadrangle.

## Previous Archeological Work in the Study Area

No prehistoric or historic sites have been previously reported in the study areas of the three items included in this survey report. Archeological sites representing virtually all phases of human occupation in southern Louisiana, however, are reported from the general vicinity surrounding the study areas. Most of these remains related to Sedentary period occupations (Muller 1978).

A number of extensive prehistoric shell middens are recorded from adjacent areas. Six middens are mentioned by Neuman (1974) in St. Bernard Parish and a prehistoric midden, Indian Shell Mound, 16PL20, is located on the east bank of the Mississippi River (Davis 1977). At Indian Shell Mound cultural deposits extend to depths of nine feet below the present land surface. This is one indication of the substantial subsidence in the area and may explain the higher frequency of sites associated with the Baytown, Coles Creek and Mississippian periods.

Numerous archeological investigations have been conducted in the lower Mississippi Valley. Archeological studies specific to Plaquemines Parish include the work of Collins (1927) who described early fieldwork undertaken by the Smithsonian Institution in 1926, and surveys by Kniffen (1936), McIntire (1958), and Neuman (1977). Other archeological studies were undertaken throughout the Lower Mississippi Valley sponsored by the Works Progress Administration and the Civil Works Administration. Although these investigations were concentrated well upstream of the study area, the results of such federally sponsored work have formed the basis for the overall cultural chronology of the entire Lower Mississippi Valley.

Much of the early survey work carried out in southern Louisiana (Kniffen 1936, 1938; McIntire 1954, 1958) adopted an environmental deterministic or cultural ecological approach. This reflects the geographical training of many archeologists active in the state during this period. Because of the unique nature of the Mississippi River Delta, there has always been a close coordination between geomorphology and archeology to the extent that archeological survey data have been used to corroborate geological dating of deltaic complexes (McIntire 1954).

There are only a few archeological sites within a two mile radius of each study area surveyed for this project according to the files at the Division of Archaeology and Historic Preservation at Baton Rouge. These sites date to the historic and prehistoric periods. All of these sites are located in Plaquemines Parish.

Most of the sites which date to the historic period are situated on the left descending bank of the river. The historic sites within two miles of the study areas surveyed for this project include 16PL69, the Tabony Cemetery; 16PL65, a wooden structure at Bohemia canal; and 16PL27, Fort de la Boulaye. Fort de la Boulaye has been placed on the National Register of Historic Places. In addition to these sites, three isolated scatters of brick, ceramics, glass, and metal have been reported as sites 16PL70, 16PL72, and 16PL73. With the exception of Fort de la Boulaye, all of these historic sites were discovered during a recent cultural resources

survey (Davis et al. 1979). Another site 16PL12, consists of a possible aboriginal earth mound surmounted by a Catholic church. Eight prehistoric sherds were collected from this site by Kniffen in 1935.

Few prehistoric sites have been reported from the general study area. In addition to the possible prehistoric component at 16PL12, only one other prehistoric site has been reported within the immediate two mile radius surrounding the study areas for this project. This site, 16PL34, consists of a shell midden located along a bayou between Magnolia and Diamond. This site has been destroyed since 1976 by repeated cleaning and dredging of the bayou channel (Davis et al. 1979).

Prehistoric sites have been described from other portions of Plaquemines Parish. The Adams Bay site, 16PL8, was reported by Kniffen (1936) to have consisted of three earth mounds associated with five small heaps of shell. The site is situated on the southwest shore of Adams Bay and has been assigned to the Plaquemine period (McIntire 1958). A small collection of eight sherds was recovered by Kniffen. The Buras Mound site, 16PL13, located to the west of Bayou Tortillon included a large earth mound and two smaller earth and shell mounds (Kniffen 1936). A collection of ceramics was made at this site and it has also been assigned to the Plaquemines period.

Although there has been little reported systematic survey activity in the immediate study area, a number of cultural resource surveys have been conducted along the Mississippi River batture and levee in Plaquemines Parish. Several of these studies have produced methodological, theoretical and substantive information relevant to this report. Dr. J. Richard Shenkel of the University of New Orleans has conducted a number of levee enlargement and revetment surveys for the U.S. Army Corps of Engineers in Plaquemines Parish (Shenkel 1976c, 1977a, 1977b, 1977c, 1977e).

Most of these surveys conducted by Shenkel (1977a, 1977b, 1977c, 1977e) did not result in the discovery of cultural remains. During the survey at English Turn (Shenkel 1976c) three potentially significant sites were recorded. The American fort built on the location of Fort St. Leon before the War of 1812 was located, as well as the associated remains of a barracks and a warehouse. Another site consisted of a six to eight-foot thick brick wall located 50 feet offshore which was interpreted to be the possible remains of a Civil War implacement. Further downstream at English Turn a cypress plank wall was located. Subsequent archeological and historic investigations at English Turn (Shenkel et al. 1977, 1978) have focused upon the history or military development in the area.

These reports, unfortunately, contain insufficient discussion of survey conditions, methodology, or the criteria employed in the acceptance or rejection of cultural remains as archeological sites for the purpose of establishing the predictive value of the negative information that is presented.

In 1978, three cultural resource surveys were conducted for levee enlargements and revetments in Plaquemines Parish (Rader 1978a, 1978b, 1978c). No cultural resources were reported during these surveys. Again,

the absence of explicitly stated site definition criteria makes it difficult to compare the results of these investigations with other work in the area.

In another cultural resource survey for a levee enlargement and concrete slope in Plaquemines Parish, Rader (n.d.) reports the discovery of an historic site consisting of two scatters of ceramics, glass and brick. These sites are interpreted to be the remains of several outlying structures associated with Upper Magnolia Plantation. The vicinity of Fort St. Leon was also investigated in this brief survey.

A cultural resources survey was conducted by Tulane University along both sides of the Mississippi River levee in south Plaquemines Parish (Davis et al. 1979). Many of the field conditions reported in this study are similar to those encountered by Iroquois Research Institute. A good description of environment and of survey conditions was provided as well as a fairly complete explanation of field methodology. Although no prehistoric sites were discovered, substantial historic remains were investigated. Much of the study area for the Tulane survey was unique in that it had been abandoned in the 1920's (Davis, personal communication). Davis et al. (1979) note and describe the difficulties in defining and delimiting archeological sites from the occasionally widespread artifact and debris scatters that characterize the batture.

Twelve site locations are described that consisted of artifact scatters of 18th, 19th and 20th century material (Davis et al. 1979). The scatters were composed of brick, glass, ceramics, and metal items, several of which may represent house middens. Subsurface testing often produced negative results at these sites. Two abandoned fishing communities, Olga and Ostrica, were located by this survey. Ten other sites consisting of structural remains were investigated, including houses, a lookout post, and a wooden walkway. This survey also resulted in the discovery of an abandoned cemetery and the investigation of Fort St. Philip.

In 1979, Coastal Environments, Inc. conducted a cultural resources survey of the Mississippi River Gulf Outlet in Orleans and St. Bernard Parishes (Wiseman et al. 1979). This survey resulted in the discovery of three prehistoric shell middens, five prehistoric spot finds, a historic foundation and a railroad bed. This report also presents a detailed reconstruction of the paleogeography of the study area. The absence of site definition criteria, however, prevents a determination of what kinds of historic cultural resources may have been noted in the survey, but not reported as sites.

Other recent historic archeological work conducted along the Mississippi River batture in southern Louisiana includes test excavations at the site of Welcome Plantation in St. James Parish (Castille 1979) and recent salvage operations conducted by Coastal Environments, Inc. at several 19th century privies exposed along the batture in the vicinity of the Bonnet Carre Spillway in St. Charles Parish (Castille 1979). Although well upstream of the study areas for this project, these investigations furnish useful archeological information concerning the historic period in southern Louisiana.

# PROJECT METHODOLOGY

In the section on previous archeological research a number of problems associated with comparing the results of reported cultural resources surveys performed along the batture of the Mississippi River in southern Louisiana were pounted out. With a few exceptions (Davis et al. 1979) a number of the previous studies consulted for this project fail to adequately describe and discuss the cultural, fluvial, and geomorphological processes that influence the existence of cultural sites along the Mississippi River. The criteria for site definition are often not discussed in these earlier reports, thus making it difficult to predict the kinds of cultural materials that would be expected to occur along the batture or natural levee.

Certain predictions, however, are possible. If prehistoric remains were to be found they would be limited to the late prehistoric period. As explained earlier, in the Geomorphology section of this report, areas along the Mississippi River are subject to various processes including alluvial deposition, lateral bank migration, and subsidence (McIntire 1958). The actual land surface is relatively recent and, as a result, only recent surficial occupations would be expected to occur. The discovery of prehistoric remains in the batture and even on the natural levee would be thus limited to the late prehistoric period unless erosion had exposed older previously occupied land surfaces along cutbanks. Human excavating activities might also expose deeply buried remains.

Survey reports, such as described in the previous section, offer little insight into the types of historic cultural resources to be expected. Background research performed by Iroquois, and information derived from more informative reports such as by Davis et al. (1979), indicate that the natural levee was the focus of land use and not the batture. In the batture one would expect to find non-in situ deposits of trash and river deposited debris, whereas in situ remains would consist mainly of structures related to transportation and river access. Where the river is migrating to one side or the other it would be possible to find structures, unrelated to the river, that originally had been situated well inland. On the natural levee, the range of expected archeological and structural properties was large. As mentioned above, the focus of settlement south of New Orleans has been on the natural levee. Through the early 20th century much of this development was agricultural. Archeologists could expect to find remains ranging from historic trash deposits to residential and agriculturally related structures.

In a following section, Iroquois Research Institute has placed an emphasis on site definition criteria and the scientific background associated with the recognition of cultural property along Mississippi River battures and natural levees.

## Field Survey Conditions

With the exception of the Harlem Levee Setback, the study areas are situated along the Mississippi River batture. This area presents a number of unusual field conditions that affect the conduct of an intensive

archeological survey. Recent trash dumping, hydrologic conditions, and dense batture vegetation affect both the actual conduct of the survey and the ease with which archeological sites can be distinguished.

Perhaps the most significant factor affecting the cultural resources and survey conditions in each item is the Mississippi River itself. Depending upon the location of each item, cultural remains are either being destroyed by erosion or buried under point bar deposits.

The river seasonally floods much of the batture area within each study area, and redeposits a wide variety of cultural materials. In several survey areas, particularly where there is a nearby population center, the riverbank is littered with an almost continuous scatter of river displaced trash: metal cans, bottles and bottle glass, shell gravel, plastic, lumber, and other items. Some of this material is clearly of 19th century derivation, but in this context it is inseparable from recent trash.

Batture flooding was not generally a problem for this project since the field work occurred in mid-September, well before the high water stage of the Mississippi River. Nevertheless, areas of standing water existed within old borrow pits and canals within the Bohemia Revetment item.

The seasonal fluctuation of the river level has an important effect upon local vegetation conditions on the batture. Flora encountered within the batture ranged from communities of sandbar willows and herbaceous vegetation near the riverbank to more mature elm-cottonwood-live oak forests further inland. In most areas, communities composed of sandbar willow thickets near the shore and small to mature willows and cottonwoods inland create poor conditions for an archeological survey. Ground visibility is for the most part very poor and physical movement through the vegetation is difficult.

Although describing conditions farther upstream along the Mississippi River, Shelford (1963:96) accurately depicts undergrowth conditions within the mature batture forest in the study area:

> The trumpet-vine comes in with the cottonwood and willow on the ridges and persists at least up to the sugarberry stage. Poison ivy is frequently more abundant in the willows of the flats than elsewhere. It appears in the succession before the grape. Grape becomes abundant on the ridges. In some areas, pepper-vine takes the place of trumpet-vine. The trumpet-vine, poison ivy, grape, pepper-vine, honeyvine, sometimes buckwheat vine, and morning-glory make a tangled mass so dense and binding as to make passage very difficult except along trails.

Within the Harlem Borrow area these conditions were exacerbated by the presence of fallen trees and large amounts of vine-covered driftwood and lumber. It was at times impossible to traverse the area without climbing through an impenetrable lattice of vines and driftwood. Along sandy river banks where willow thickets and herbaceous plants are sparse or absent, visibility conditions were generally good. Conditions were similar at the Woodland Borrow.

The Harlem Levee Setback, by virtue of its location on the landside of the existing levee, afforded generally good survey and site visibility conditions. A relatively open hardwood forest characterized the upstream and downstream sections of the survey area. This area could be walked easily, and ground visibility was generally good. The center section of the area, however, presented poor ground visibility conditions due to the presence of a dense herbaceous pasture. Throughout the Harlem Levee Setback area, the identification of archeological sites was aided by the fact that the item had not been subjected to continual scattering and deposition of cultural material by the Mississippi River.

## Survey Methodology

The field crew available for the archeological survey varied between four and six individuals. The survey of each individual item was carried out by crews numbering from three to six archeologists. The Harlem Levee Setback right-of-way was surveyed by transects aligned parallel with the existing levee and riverbank. On the other hand, Harlem Borrow, Woodland Borrow, and Bohemia Revetment were surveyed by transects aligned perpendicular to the levee. Table I summarizes the survey techniques employed at each item.

## TABLE 1

SUMMARY OF ARCHEOLOGICAL SURVEY

| Item | Length of Study Area Meters | Average Width of Study Area Meters | Orientation of Transects to River Levee | Number of Transects | Transect Interval Meters |
|---|---|---|---|---|---|
| Bohemia | 4115 | 82 | perpendicular | 149 | 30 |
| Woodland | 256 | 30 | perpendicular | 10 | 30 |
| Harlem Setback | 917 | 46 | parallel | 3 | 17 |
| Harlem Borrow | 410 | 46 | perpendicular | 15 | 30 |

Each crew person walked a transect and noted the presence of cultural debris, archeological sites, artificial surficial anomalies and exposed cutbanks along and to either side of each transect. Notes were taken on pretested forms and in field notebooks. Individual transects were ideally straight lines walked by each archeologist but dense underbrush, standing water, and other obstructions resulted in occasional variation from the ideal.

At all items surveyed with transects running perpendicular to the levee and river, the spacing interval was ideally 30 meters. As a result of deviations from course due to obstructions, standing water, dense

undergrowth, and inaccuracies in pacing, however, the actual average transect interval in these items ranged from 28.0 to 29.0 meters. Because of the narrowness of the Harlem Levee Setback corridor and the expectation that significant cultural resources might have occurred within the area, this item was surveyed with transects spaced at 17 meter intervals.

Each survey area was usually identified in the field by comparing existing levee station markers with station information presented on project maps supplied by the Corps of Engineers. In most areas it was also possible to locate each item with respect to houses, roads, and other features shown on project maps and visible in the field.

## Site Definition

The recognition and definition of historic archeological sites is a major methodological problem associated with any investigation along the Mississippi River batture. The batture area is often characterized by an almost continuous scatter of secondary historic and modern artifact deposition along the bank of the river. Extensive trash dumping also occurs along the landward edge of the batture forest near the riverside toe of the levee. Conversation with the Chief Engineer of the Jefferson Parish Levee Board confirms that the area between the batture forest and the levee is often used for dumping by local residents and contractors (Middleton, personal communication). This pattern of dumping was observed at several locations along the Bohemia Revetment.

The separation of discrete clusters of cultural materials recognizable as historic sites from these widely distributed artifact scatters and dumps in the batture is a major problem. An obvious solution might be to inventory all historic cultural materials that are observed within each survey area. This approach would present almost insurmountable methodological problems, however, because fluvial action has deposited an almost continuous scattering of historic and modern trash in many areas. The time required to adequately perform such an inventory would be exponential.

Another solution might be to designate all discrete scatters of high density material such as brick, concrete, metal, and other items as sites; ignoring the presence of light density continuous deposits of items such as bottle glass, plastic, wood, metal containers, and other small artifacts. Davis et al. (1979), in a recent report of an archeological survey along the Mississippi River in southern Plaquemines Parish, have conceded that such an approach introduces an arbitrary element of judgment into site identification.

For the purposes of this study, historic sites are defined as extant, in situ structural remains or places where a domestic occupation or intensive economic activity took place. These criteria usually exclude roads, fences, isolated historic trash dumps, isolated artifacts, abandoned vehicles, and litter. For prehistoric remains the singular presence of a midden or artifact scatter would be a sufficient criterion for site definition. However, prehistoric remains were not discovered at any of the items surveyed in this project.

Although these criteria for the designation of historic sites appear relatively clear, the widespread occurrence of low density artifact scatters and dumps in batture areas often complicated site recognition.

The scattering of artifacts and other cultural debris in the survey areas may result from river deposition of flotsam and jetsam, especially after flooding; erosion of formerly buried or surficial dump sites; primary trash dumping; or erosion of artifacts associated with occupation areas. Such scatters are not recorded as sites unless there is some evidence that they might have been associated with a definable occupation or economic activity area.

Upon discovery of a suspected archeological site, survey procedures were suspended and site verification was undertaken. A site datum was established, usually near the center of each site. If in situ structural remains or other surficial features were present, these were cleared of vegetation and mapped on a site plan. Depending upon specific conditions prevailing at each site, systematic or selective samples of surficially occurring artifacts were performed. Systematic sample were collected at every archeological site. Around structures where surface artifacts were very scarce and not clearly associated with the site, only a selective sample was made. If only a small quantity of artifacts were observed, a 100 percent collection was performed. At archeological sites, shovel tests measuring 30x30x30 centimeters were excavated to assess the subsurface contents.

If the site occurred in the vicinity of a cutbank area, the walls of the bank were inspected for more deeply buried cultural material. All site information was recorded on pretested forms and in field notebooks. The site area was photographed. Specific details of site examination procedures at each site have been incorporated in the site descriptions.

All cultural materials recovered from the surface and subsurface tests at each site were bagged by provenience. Provenience data were kept separate for all shovel test units, systematic surface collection units, and selective grab samples.

## Laboratory Methodology and Artifact Classification

The cultural materials recovered from the surface and shovel test procedures conducted during fieldwork operations of this study were washed and classified into gross categories based upon morphological characteristics. In the process of categorizing and cataloging the artifacts, all provenience information was maintained. Only historic sites were discovered during the survey and all the artifacts were historic remains. The categories of historic artifacts are glass, ceramics, metal, construction material, and miscellaneous material.

The historic materials are dominated by glass remains which were classified by color, shape, and when possible, by function and mode of manufacture. References consulted in the analysis of glass shards include Oliver (1977), White (1978), Yakubik (1979), and Lorraine (1925).

The majority of the ceramics collected were whiteware as defined by Yakubik's (1979) criteria of a refined opaque white body and clear colorless glaze. Price (1979) does not satisfactorily differentiate whiteware and ironstone. For this analysis, ironstone is considered to be a variety of whiteware due to the lack of consistent morphological characteristics. Stoneware is identified by a gray colored paste with a salt glaze.

Metal and construction remains collected during this project were classified on the basis of morphology and function. Most appear to be modern. Nails were described and dated according to Nelson's (1968) Nail chronology.

# SURVEY RESULTS

## Overview

The archeological survey of the areas associated with the three items in Work Packet Four resulted in the discovery of two historic sites. No prehistoric archeological evidence was observed in any of the study areas. One historic site was located in the Bohemia Revetment and one in the Harlem Levee Setback rightsofway. No historic sites were recognized at Woodland Borrow or Harlem Borrow. In addition to the defined sites, extensive and widespread scatters of historic and modern material occurred in each batture area, but were particularly apparent along the bank at Bohemia Revetment. Much of this material has apparently been deposited or scattered by the river. Other isolated artifact and debris scatters are apparently the result of trash dumping activities within the batture. Survey field conditions have been described in the Project Methodology Section.

River deposited material was usually characterized by a generally uniform and omnipresent distribution of flotsam and jetsam such as driftwood, lumber, metal , buoys, rope, plastic objects, ship and barge fittings, cans, bottles and bottle glass, and other items. Such material was found throughout the batture but was particularly common along the riverbank.

Other scatters of cultural material appeared to represent the results of erosion and redeposition of material formerly in situ at some point along the river bank. These scatters typically consisted of linear deposits of glass fragments, ceramics, metal objects, concrete fragments, shell gravel, fragmented bricks and other building materials along the river shore. The source of these deposits was often impossible to pinpoint. It is suspected that most of these scatters represent the remains of eroded and redeposited trash dumps. No in situ structural remains were noted in the vicinity of any of these deposits which often contained a wide variety of materials.

## Site Descriptions

The two sites discovered during the survey of the Harlem Levee Setback and the Bohemia Revetment are described in this section.

### Site 16PL83

Site 16PL83 was the only historic archeological site encountered during the survey of the Bohemia Revetment. The site was discovered along the transect survey near the upper limit of the study area. The site is defined by the presence of what is suspected to be a fragmentary dock or wharf structure lying at the head of a short rectangular inlet to the Mississippi River. The structure consists of two large parallel wooden beams together measuring approximately 10 meters long, 65 centimeters high, and 30 centimeters wide. The beams are tightly joined at each end by bolts. Large rectangular notches on both beams suggest that they may have formerly dove-tailed with another structure.

The inlet, which appears to be artificially dredged, is about 15 meters long and 10 meters wide at the mouth. The inlet is situated immediately downstream from a riprap revetment that continues intermittently to the upper limit of the study area. The site is interpreted to be the scattered remains of a dock. However, the absence of structural features such as pilings indicate that the beams do not lie in their original position. A similar beam measuring approximately two meters in length lies roughly 13 meters downstream from the dock structure and may have been formerly associated with the structure.

A datum was established next to a large tree stump at the riverside end of the larger beam structure. A superficial reconnaissance of the immediate area surrounding the site failed to locate any associated artifacts. No subsurface tests were performed at 16PL83. No historic artifacts were recovered from the site.

Site 16PL84

Site 16PL84 consists of a variety of structural remains within and beyond the right-of-way for the Harlem Levee Setback. The entire site may be subdivided into two discrete areas, Part A and Part B. Part A was identified as several areas of scattered brick and fragmentary foundation remains in the vicinity of a currently occupied trailer house. Part B includes a large standing house located approximately 300 meters upstream from Part A. Directly behind this house is a detached outbuilding which falls outside of the project right-of-way. There is evidence to suggest that both areas of 16PL84 are associated with Old Harlem Plantation, which is traversed by the project right-of-way.

Part A was initially encountered during the transect survey as a surficial scatter of soft red brick remains known as country brick in a wooded area immediately downriver from the trailer house yard. Many of these bricks appear to be the soft red varieties which date to the first half of the 19th century (Servat 1977). Subsequent inspection of the site area downriver of the trailer house revealed the existence of three small surficially apparent areas of in situ brick remains. One of these areas is illustrated in Plate 4. These areas appear to be the remnants of house supports and all could relate to a single structure. Loose brick was scattered throughout the area.

A datum was established near one of the three possible foundation supports and shovel tests were performed at five meter intervals along cardinal axes from the datum. Systematic surface collections were made in a 2 x 2 meter area surrounding each shovel test. A total of 16 shovel tests were performed, three of which extended beyond the northern limit of the project right-of-way. The shovel tests failed to indicate the presence of additional in situ brick remains or midden deposits within the right-of-way downriver of the trailer house.

Five to 25 meters north of the right-of-way is a dense historic and modern midden deposit, containing glass, ceramics, construction debris, and metal items. Most of the items recovered from this area appear to relate to the 20th century. This midden is situated among the ruins of

Plate 4. Northward view of in situ brick remains at 16PL84 Part B. The area of in situ brick measures approximately one square meter and may represent the remains of a brick support for a structure. Loose bricks were scattered over the ground surface throughout much of the wooded area of 16PL84 Part B. Similar in situ remains were noted within the project right-of-way at two other locales within the site. No. 1549-15a.

another structure, indicated by much scattered brick, several small areas of in situ brick, and the base of a large chimney. This brick scatter encompasses approximately 424 square meters. Three filled-in cisterns were also located north of the right-of-way downriver from the midden and structural remains. An old railroad bed runs parallel to the levee outside of the right-of-way immediately north of the midden and structural remains.

A systematic investigation of the remainder of Part A was hampered by the presence of the occupied trailer house, a grassy yard, a stock pond, and a fenced corral area. Nevertheless, the partial remains of three small brick building supports were noted in the beaten earth driveway of the trailer 35 meters west of the datum and a large area of scattered in situ brick was observed within a corral area 20 meters upstream from the driveway. These two areas of structural remains fall well within the right-of-way for the Harlem Levee Setback.

The cultural material assemblage recovered from Part A consists of 272 historic items. The remains were recovered through systematic surface collections and shovel testing downriver of the trailer house and include glass, ceramic, metal, construction and miscellaneous materials. Table 2 indicates the provenience of these materials within the site.

# TABLE 2
# HISTORIC CULTURAL REMAINS FROM 16PL84

| | Provenience Surface Systematic | | | Shovel Tests 30x30x30 cm | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 5SOE | 35NOE | Sub Total | ON5E | ON5W | ON10W | 5NOE | 5SOE | 10NOE |
| **Glass** | | | | | | | | | |
| Clear Bottle Fragments | - | 12 | 12 | - | - | - | - | - | - |
| Amethyst Bottle Fragments | - | - | 0 | - | - | - | - | - | - |
| Clear Brown Bottle Fragments | - | - | 0 | - | - | - | - | - | - |
| Clear Aqua Bottle Fragments | - | - | 0 | - | - | - | 4 | - | - |
| Clear Blue Bottle Fragments | - | - | 0 | - | - | - | - | - | - |
| Clear Green Bottle Fragments | - | - | 0 | - | - | - | - | - | - |
| **Ceramic** | | | | | | | | | |
| Whiteware Sherd | - | - | 0 | - | - | - | - | - | - |
| Painted Whiteware Sherd | - | 1 | 1 | - | - | - | - | - | - |
| Whiteware Transfer Print Sherd | - | 1 | 1 | - | - | - | - | - | - |
| Stoneware Sherd | - | - | 0 | - | - | - | 1 | - | - |
| **Metal** | | | | | | | | | |
| Square Spike | - | - | 0 | - | - | 1 | - | - | - |
| Scrap | - | 1 | 1 | - | - | - | - | 2 | - |
| Modern Wire Nails | - | - | 0 | - | - | - | - | 1 | - |
| Modern Machine Cut Nails | - | - | 0 | - | - | - | - | 2 | - |
| Nail Fragments | - | - | 0 | - | - | - | - | - | - |
| Screw | - | - | 0 | - | - | - | - | - | - |
| Wire | - | - | 0 | - | - | - | - | - | - |
| **Construction** | | | | | | | | | |
| Mortar | 1 | - | 1 | 4 | 5 | - | - | - | - |
| Brick | | - | 0 | 11 | 8 | 1 | 13 | 9 | 8 |
| Cement | | - | 0 | - | 3 | - | 5 | - | - |
| **Miscellaneous** | | | | | | | | | |
| Record Fragments | 24 | - | 24 | - | - | - | - | - | - |
| Shell | - | - | 0 | - | - | - | - | - | - |
| Rock | - | - | 0 | - | - | - | - | - | - |
| Bone | - | - | 0 | - | - | - | - | - | - |
| Organic | - | - | 0 | - | - | - | - | - | - |
| **TOTALS** | 25 | 15 | 40 | 15 | 16 | 2 | 23 | 14 | 8 |

# TABLE 2
# HISTORIC CULTURAL REMAINS FROM 16PL84 (CONT.)

Shovel Tests 30x30x30 cm

| 10SOE | 15NOE | 20NOE | 25NOE | 30NOE | 35NOE | 40NO | Sub Total | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | **Glass** |
| - | - | 8 | 30 | - | 1 | 2 | 41 | 53 | Clear Bottle Fragments |
| - | - | 1 | - | - | - | - | 1 | 1 | Amethyst Bottle Fragments |
| - | - | 1 | 1 | - | - | - | 2 | 2 | Clear Brown Bottle Fragments |
| - | - | - | 2 | - | - | - | 6 | 6 | Clear Aqua Bottle Fragments |
| - | - | - | 2 | - | - | - | 2 | 2 | Clear Blue Bottle Fragments |
| - | - | - | 1 | - | - | - | 1 | 1 | Clear Green Bottle Fragments |
| | | | | | | | | | **Ceramic** |
| - | - | 1 | 5 | 1 | 3 | 1 | 11 | 11 | Whiteware Sherd |
| - | 1 | - | 3 | - | 1 | 1 | 6 | 7 | Painted Whiteware Sherd |
| - | - | - | 1 | - | - | 1 | 2 | 3 | Whiteware Transfer Print Sherd |
| - | - | - | - | - | - | - | 1 | 1 | Stoneware Sherd |
| | | | | | | | | | **Metal** |
| - | - | - | - | 2 | 1 | - | 4 | 4 | Square Spike |
| 1 | - | - | 1 | - | - | - | 4 | 5 | Scrap |
| - | - | - | 5 | - | - | - | 6 | 6 | Modern Wire Nails |
| - | - | - | 2 | - | - | - | 4 | 4 | Modern Machine Cut Nails |
| - | - | - | 6 | - | - | - | 6 | 6 | Nail Fragments |
| - | - | - | 1 | - | - | - | 1 | 1 | Screw |
| - | - | - | 1 | - | - | - | 1 | 1 | Wire |
| | | | | | | | | | **Construction** |
| - | - | - | - | - | - | - | 9 | 10 | Mortar |
| 1 | 2 | 2 | 17 | - | 4 | 4 | 80 | 80 | Brick |
| - | - | - | - | - | - | - | 8 | 8 | Cement |
| | | | | | | | | | **Miscellaneous** |
| - | - | - | - | - | - | - | 0 | 24 | Record Fragments |
| - | 2 | 3 | 18 | 1 | 1 | 2 | 27 | 27 | Shell |
| - | - | - | 3 | - | - | - | 3 | 3 | Rock |
| - | - | - | 1 | - | 4 | - | 5 | 5 | Bone |
| - | - | - | 1 | - | - | - | 1 | 1 | Organic |
| 2 | 5 | 16 | 101 | 4 | 15 | 11 | 232 | 272 | **TOTALS** |

Construction debris dominated the assemblage. Ninety-eight items were recovered including eighty fragments of brick, ten pieces of mortar, and eight pieces of cement. Approximately one-third of the pieces of brick are classifiable as "country brick" varieties (Servat 1977) which may date to the early 19th century. Brick colors include red, orange, and gray.

Twelve fragments of clear bottle glass were recovered from the systematic surface collections at Part A. One piece is embossed with "PRODUCTS DIVISION ROYAL PRODUCTS NEW ORLEANS, LA." Embossed bottles were first made in 1850. However, these fragments of clear glass appear to be recent and seem to have been produced by an automatic bottle machine which was improved and refined in 1920 (Yakubik 1979). One fragment is weathered and patinated which may be reflective of an older date or may be a result of exposure to the elements.

Forty-one clear colorless bottle glass fragments were recovered during subsurface testing. Twenty-seven of these pieces seem to be from a recent bottle which has a screw top opening and was produced by an automatic bottle machine. Another piece is pressed glass also of recent production. The remaining clear colorless shards are nondiagnostic.

The remaining glass fragments are tinted by color but are clear. An amethyst neck shard with a rounded lip for a crown cap enclosure was collected. Amethyst glass was produced between 1880 - 1920 and crown cap enclosures were first introduced in 1892 (Lorraine 1968). This specimen, therefore, probably dates between 1892 and 1920. Two brown, six aqua, two blue and one green tinted shards were recovered from this site. The green shard is very crackled and likely was produced that way for decorative effect. Four of the aqua fragments exhibit lateral seams continuous to the lip and were probably produced by an automatic machine after 1903 (Lorraine 1968).

The surface assemblage of ceramics includes two whiteware sherds, one with a blue transfer print and the other is a painted ironstone sherd from a plate.

The subsurface ceramic assemblage includes twenty-one whiteware sherds and one stoneware sherd. Many of the whiteware fragments are decorated; six are painted and three exhibit blue transfer prints. Of the six painted whiteware fragments, three exhibit blue rim decoration, one is characterized by concentric brown striping with a fragmentary green area, one possesses a trace of yellow paint, and the last, a plate rim fragment, exhibits blue concentric stripes between which a green and purple leaf pattern has been hand painted. Two sherds consist of plain whiteware and include two rims, one neck, five body sherds, and one base sherd. The stoneware body sherd exhibits a coarse gray paste and dull glaze.

Only one metal artifact was recovered from the surface and it is a thick irregular piece of rusted tin. The subsurface recovery of metal items is more extensive. Sixteen nails were removed from the site. Six are fragmentary but the remaining can be identified and include six modern wire nails and four modern machine cut nails. Both types of nails are still produced but were first manufactured during the mid-19th century

# FIGURE 1

## RELATIVE LOCATIONS OF SITES 16PL84

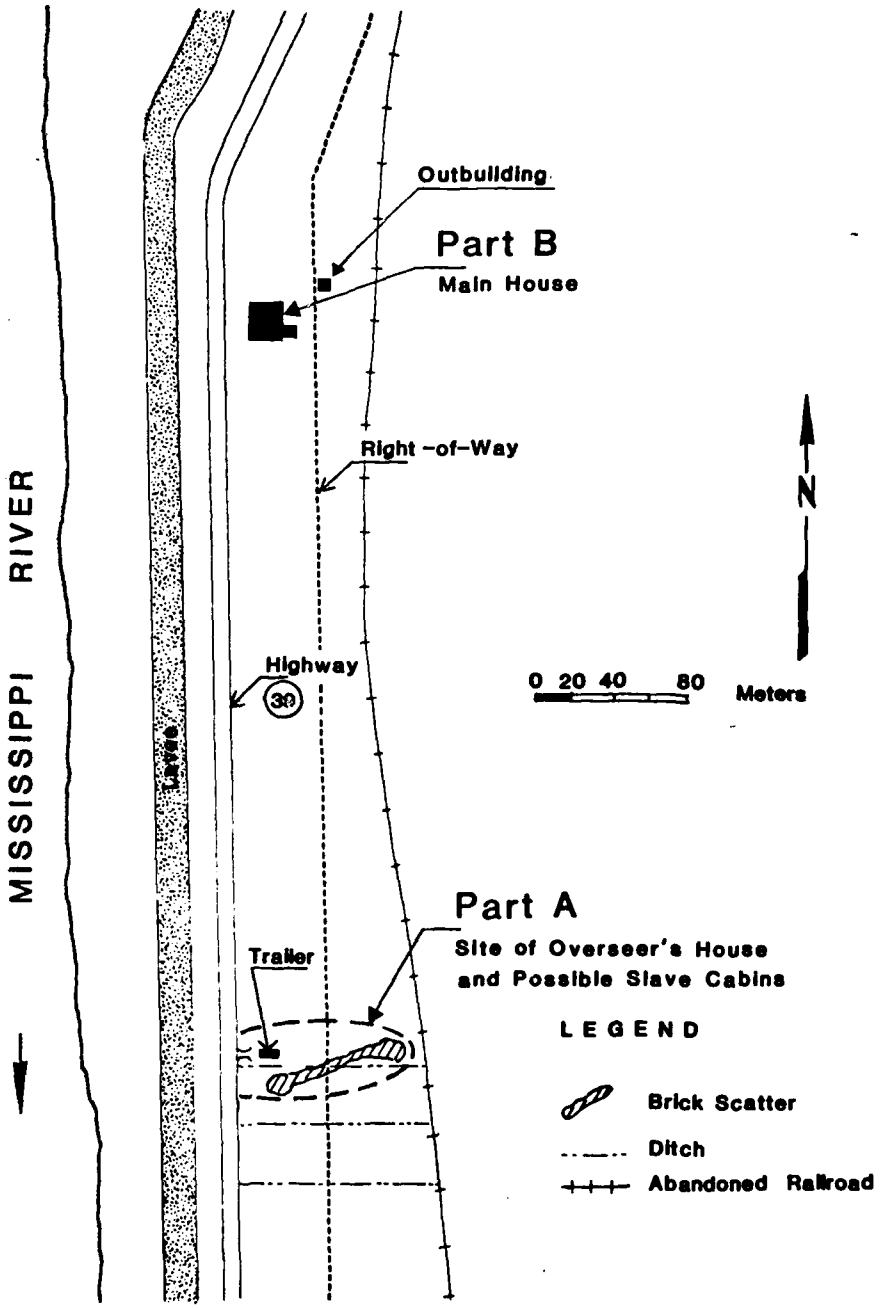


Plate 5. General elevation of principal standing structure at 16PL84 Part B. The house exhibits architectural features of the 19th and 20th centuries.

(Nelson 1968). Three spike fragments were removed from Part A as well as one complete spike that is 8.5 inches long. A screw and a wire fragment were also recovered from this location.

Sixty items were recovered from Part A that are classified in a general miscellaneous category. These specimens include 24 pieces of a plastic phonograph record, twenty-seven unmodified oyster shells, three rocks, five pieces of cut bone and one seed pod.

Part B is located approximately 300 meters upstream from Part A, as illustrated in Figure 1. This area of the site includes two structures, a large manor house and a small outbuilding. The outbuilding is currently occupied and is located beyond the project right-of-way. The large structure, which is inhabited on weekends by the owner of the property, is a frame, one and one-half story, raised, Louisiana manor house with a dormered, gable-sided roof and pillared front gallery. A general view of this house is shown on Plate 5. The front gallery is incorporated into the deep overhang of the roofline. Front and rear cornices without denticulation run along the eave line and slightly wrap around at the corners, as can be seen in Plate 6, outlining a triangular pedimental shape in the upper gables.


Plate 6. Rear corner of principal standing house at 16PL84 Part B, with returning cornice. Plate 7. Semi-detached rear wing of principal standing structure at 16PL84 Part B. This feature may have formerly been completely detached. Plate 8. Detail of Louisiana Red bricks and mortar underlying recent cement stucco of foundation pillar of the principal standing structure at 16PL84 Part B.

Rear extensions to the house include a partially enclosed porch with multiple windows, rectangular in shape and attached to the central portion of the rear facade. A semi-detached rear wing extends from the porch as illustrated in Plate 7.

The entire house is raised on square brick pillars that are covered with 20th century Portland cement stucco. Where this stucco is missing the bricks may be observed to be country brick varieties that date to the first half of the 19th century (Servat 1977). Prior to the application of the cement stucco, these brick pillars were plastered with burned shell lime mortar, some of which is still apparent on exposed bricks, as seen in Plate 8.

The second level is enlarged by six rectangular dormers apparently dating from the 20th century. The home's interior walls are entirely covered with early 20th century narrow matched beaded boards.

Three 1840's style Greek Ear mantles (Christovich et al. 1977) finish the three interior fireplaces. The beaded board wall covering and the Greek Ear mantles of the bedroom are illustrated on Plate 9. The interior staircase appears to date from the early 20th century and is located in the center room of the second level. Turned balusters and fluted, corbeled newell posts with a molded handrail appear to be in the style of millwork popular in the first decade of the 20th century. The upper balustrade of the staircase is shown on Plate 10.

Plate 9. Interior view of house at 16PL84 Part B. This photograph shows the 1840's style Greek Ear mantle of the bedroom and the characteristic early 20th century beaded board wall covering.

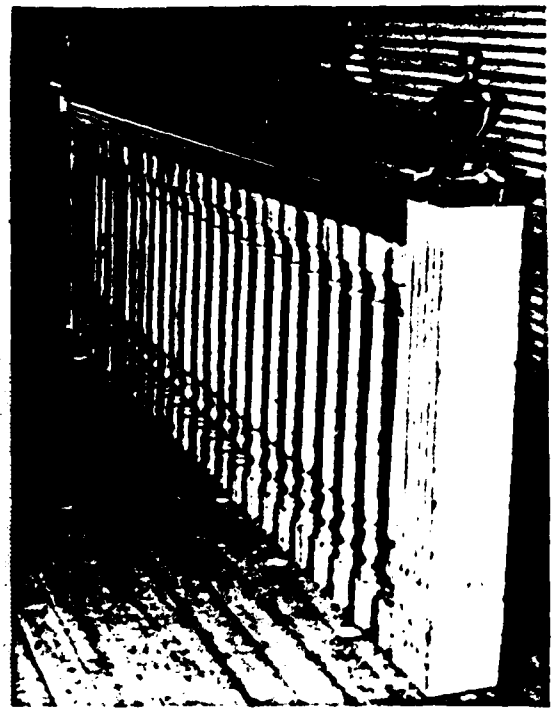


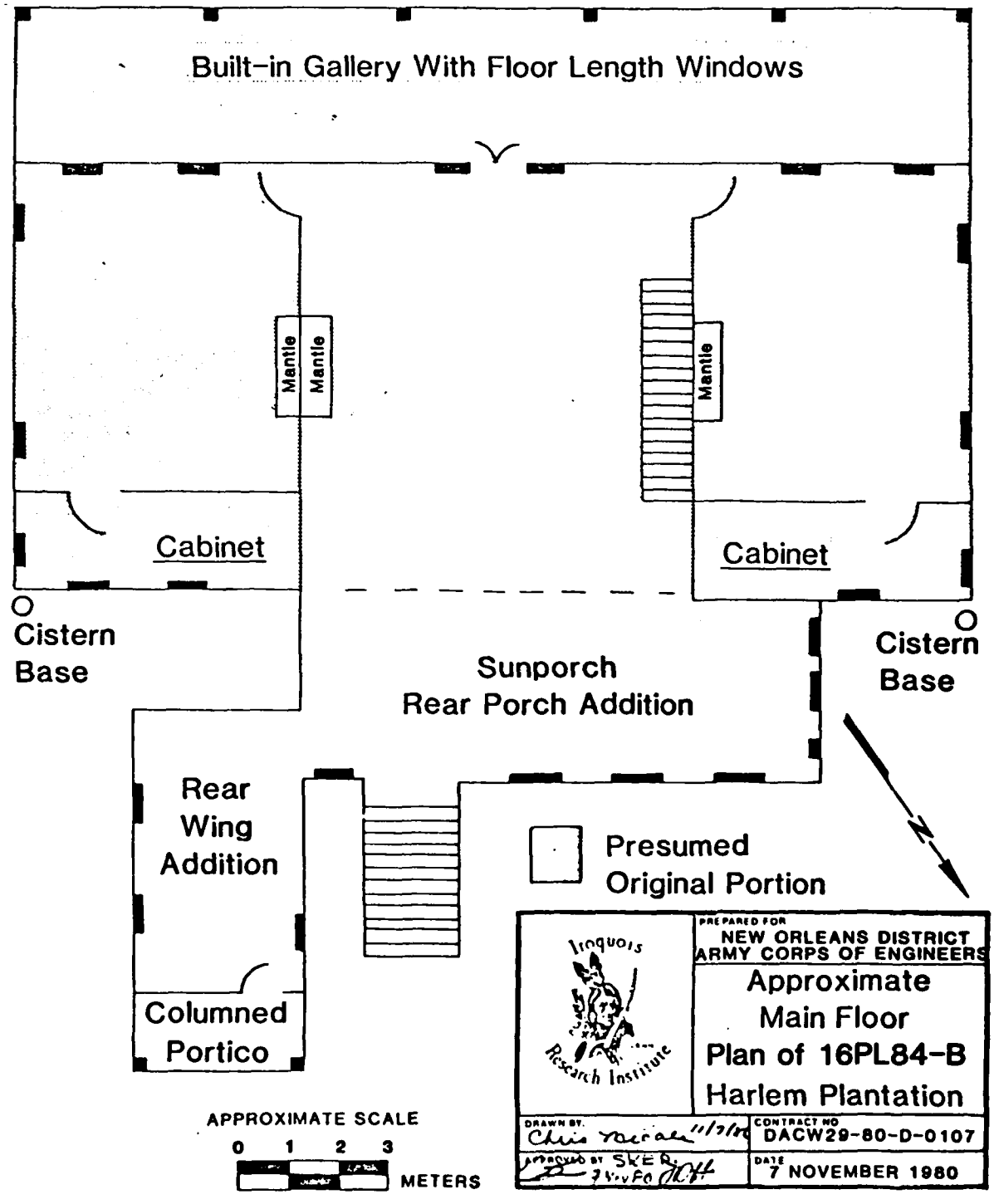
Plate 10. Interior view of house at 16PL84 Part B. This photograph illustrates the 20th century style balustrade.

As can be seen in Plate 11, the floor plan of the house is a simple three-room-wide arrangement of equal size rooms. There is actually no hallway, because the center room is treated as a living space and is equal in size to the other two rooms flanking it. It is furnished with a fireplace. The front door, however, opens directly into the center room and it, therefore, can also be considered an entrance room. Since it is possible to pass from the front door to the back door through this room it can also be looked upon as a passageway. The combined aspects of this room, as above described, suggest that it may be representative of a transitional phase of Louisiana architectural development between the hall-less French-Spanish colonial type house and the American house with center hall. This transitional period began about 1820 and lasted until about 1845 (Wilson 1968).

Mississippi River Levee

Existing Road Louisiana Highway 39

Plate 11



# SUMMARY AND RECOMMENDATIONS

## Summary

Two sites were discovered during the survey of the Bohemia Revetment and the Harlem Levee Setback study areas. 16PL83 in the Bohemia Revetment consists of the possible remains of a dock structure situated at the head of a short inlet off the Mississippi River. It appears to be relatively recent, and no artifacts were observed in association with the structure. WP4-2 consists of a standing house and several brick scatters that are probably associated with Old Harlem Plantation.

In addition to the two identified sites, a wide variety of historic and modern artifacts were found scattered along the exposed bank of the river. None of these scatters were recorded as archeological sites.

As expected, no prehistoric sites or artifacts were discovered in the study areas for this project. Prehistoric occupations as old as 1000 B.P. may occur in the study area, but the likelihood of recovering prehistoric cultural remains on the Mississippi River Levee or batture is quite remote. Even late prehistoric remains would be buried beneath a layer of recent alluvium. Erosional banks and human excavations in each survey area were inspected for evidence of prehistoric sites, but none was located.

## Significance of the Resources

The Department of Interior has established the following criteria of significance:

> National Register Criteria for Evaluation. The quality of significance in American history, architecture, archeology and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> (a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) That are associated with the lives of persons significant in our past; or
>
> (c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) That have yielded, or may be likely to yield, information important in prehistory or history (Code of Federal Regulations, Title 36, Chapter I, Part 60.4, dated 18 November 1981).

The literature search, archival review, cartographic review, background research, and field investigations have yielded no evidence that 16PL83, the possible dock structure, can be associated with significant events or important persons in local, regional, or national history. This site, therefore, is not considered to be eligible under criteria "a" and "b." There is also no evidence to suggest that 16PL83 represents an architecturally significant structure. The wooden beams incorporate no unique or significant construction details and the inlet is characteristic of many small dredged inlets in southern Plaquemines Parish. Finally, since the site has been heavily disturbed by fluvial action and no artifacts were associated with the inlet or structure, it has no value to historic archeology in the area. Site 16PL83, therefore, is not considered significant.

There is documentary, cartographic, architectural, and archeological evidence to suggest that the brick foundation scatters at 16PL84 Part A and the standing structure at 16PL84 Part B are related to the Old Harlem Plantation and may be eligible to the National Register of Historic Places.

The scattered brick foundations at 16PL84 Part A occur in the same location as a large cluster of buildings shown on Mississippi River Commission Chart 79 (Mississippi River Commission 1895). This chart was compiled in 1875 and shows a large structure, probably the sugar house, immediately south of the New Orleans and Southern rail line. This structure is surrounded by at least five smaller buildings. The three small structures parallel a road immediately to the north of the railway.

The right-of-way for the Harlem Setback traverses the Harlem property 20 to 30 meters south of the rail line, which is visible as an abandoned, elevated railbed.

Although the observed brick scatters within the right-of-way are too disturbed to determine how many or what types of structures are represented by them, at least three separate structures may lie within the area. Many bricks comprising the scatters appear to be country red varieties (Servat 1970) which date to the first half of the 19th century.

Documentary evidence assembled elsewhere in this report indicates that by 1867 many structures were present at Harlem Plantation including the dwelling home, a sugar house, a forge, cooper shop, carpenters shop, corn mill, an overseer's house and kitchen, eleven slave cabins, a stable and two corn houses, and a hospital building in addition to other small structures. When the river commission map was compiled in 1875, the plantation had apparently been operated by absentee owners for several years and the manor house was probably unused and deteriorating. It is apparently not among the structures shown on the Mississippi River Commission map.

According to the current owners of the property (B. Lopez, personal communication; D'Aquilla, personal communication), a number of former plantation structures survived into the 1940's within the project right-of-way at 16PL84 Part B. These include the overseer's house, which was destroyed in 1947; a large stable; and possibly some slave cabins. A former slave cabin dating to the 1830's still exists on the property, but it is located well to the north of the setback right-of-way.

The slave cabins were apparently occupied throughout the late 19th and 20th centuries by several black families (B. Lopez, personal communication; D'Aquilla, personal communication). The possibility exists that these people may have been descendants of the original plantation labor force. The present occupants of the trailers in the vicinity of 16PL84 Part A only recently moved out of the surviving slave quarters (B. Lopez, personal communication; D'Aquilla, personal communication).

Almost certainly, the large chimney base and associated brick scatters immediately to the north of the right-of-way at 16PL84 Part B relate to the probable sugar house depicted on Mississippi River Commission Chart 79 (1895). Informant information (LB. Lopez, personal communication; D'Aquilla, personal communication) would appear to indicate that the observed remains within the project right-of-way are most likely remnants of a stable, the overseer's house, or slave dwellings. The apparent age of the bricks associated with these scatters also indicates that they probably relate to buildings extant in the early and middle 19th century.

Artifacts and debris recovered from shovel tests in the tested portions of 16PL84 Part B are largely of 20th century origin, and probably represent refuse from the trailer house. Earlier midden deposits may exist within the right-of-way, however, either in untested areas or buried below the surficial deposits probed with 30 centimeter shovel tests.

The large standing house at 16PL84 Part B, 300 meters upstream from Part A, may be the 19th century manor house of Harlem Plantation. This possibility is strongly supported by architectural evidence as well as circumstantial documentary evidence. Unequivocal evidence for this possibility in the form of a building contract or architectural plan was not located.

The house, as it stands today, exhibits a blend of 19th and 20th century architectural traits. Together with documentary evidence, these traits suggest three likely hypotheses for the origin of the structure at 16PL84 Part B:

(1) It may have been built in the decade between 1830 and 1840 and remodeled around 1910;

(2) It may have been newly built or almost entirely rebuilt from ruins in 1910;

(3) It may have been built prior to 1812, remodeled between 1835 and 1840, and remodeled again around 1910.

A discussion of these hypotheses follow below.

Because the house exhibits stylistic elements especially characteristic of the 1840 and 1910 periods in Louisiana architecture, it may have been built between 1830 and 1840 and remodeled around 1910. The elements most strongly suggesting an initial construction date between 1830 and 1840 are the simple rectangular and symmetrical shape of the original house, its gable-sided roofline with built-in galleries, the use of Louisiana Red bricks in the square brick pillar foundations, the three-room-wide floor plan with Louisiana style cabinets behind them, the interior placement of the fireplaces, and the use of Greek Ear mantles of a type commonly used in the 1830-1840 period in the vicinity of New Orleans.

The chimneys appear to be made of late 19th or early 20th century hard Lake brick (Servat 1977) and were probably used in repairs or replacements. The six dormers projecting from the front and rear roof elevations are in 20th century style and were maybe replacements of earlier dormers. Their spacing and placement is correct for the 1840 period. Earlier dormers may have been blown off by a hurricane, possibly the hurricane of 1893 which crossed this site (Works Progress Administration Chart from U. S. Weather Service 1940). It is not an uncommon phenomenon for hurricanes to remove dormers.

An early 20th century remodeling or repair to the house is indicated by the beaded board interior wall coverings, the interior staircase, the present dormers, and the rear extensions and wing addition placement. The present front gallery pillars are not original. Their original appearance would characteristically have paralleled that of the small box column on the rear porch of the rear projecting wing illustrated in Plate 7. Their placement is correct for 1840. Short, double-hung windows on the sides and rear of the house and their placement are in the style of the 1840 period in Louisiana; while the long, floor-level windows on the front porch reflect the prevailing style of French and Spanish colonial fenestral treatment in Louisiana, which continued throughout the antebellum period.

If this house had been built in the period 1830-1840, archival evidence indicates that it would have been built by the Wederstrandt family, who moved to the plantation between March of 1827 and July of 1828, and who by 1830 had a household of 70 persons, including slaves.

It is possible that the house may have been newly built or almost completely rebuilt in the early 20th century. The strongest suggestions of this possibility consist of detail features such as the rectangular dormers, the interior beaded board wall coverings, the interior placement of the stairway and its millwork, the red-brown molded brick chimneys, the rear porch "sun room" extension, and the Portland cement stucco covering the brick pillar foundations.

Archival evidence supporting an early 20th century construction date is the sale of the Harlem property by Haspel and Davis Milling and Planting Company to an individual, Charles W. Buckley, in 1910. Haspel and Davis operated dozens of absentee plantations and would not have had

need for a manor house. It is possible that an individual such as Buckley may have built a new house on this location, or almost completely rebuilt the ruins of an earlier house. A 20th century construction date for the house at 16PL84 Part B may also be suggested by the fact that no structure is shown at this location on Mississippi River Commission Chart 79 (1895), which was compiled in 1875. It is possible that the earlier house or houses burned or were demolished, although no archival evidence for this has been found.

It is known from archival sources that a dwelling house existed on the plantation property as early as 1812. It is therefore possible that the house at 16PL84 Part B was built prior to 1812, remodeled about 1840, and remodeled again about 1910.

The evidence for this proposition includes documentation that a plantation was being cultivated on this property as early as 1790 with buildings. In an 1812 sale, the buildings were further specified as including a dwelling house. Because the house at 16PL84 Part B has a very simple three-room-wide floor plan with cabinets and can be considered a hall-less house, it could have been built prior to 1810 in the French colonial style which was always three rooms wide, one or two rooms deep, hall-less, and contained cabinets.

The early country bricks of the foundation pillars, with their plaster coating as seen under the missing portions of the modern cement covering on some of the pillars, could date from the 1810 period. Many bricks found scattered at 16PL84 Part B are of this type, and are so soft that they can be broken by hand. These very soft bricks antedate 1834 in Louisiana (Servat 1977). If the house was originally built circa 1810 its front doorway, doors, mantles, cornice, stairway and all of the 20th century elements described above were added later.

The combined architectural evidence favors an hypothesis that the house at 16PL84 Part B was originally built in the period 1830-1840 and remodeled around 1910.

All of the 20th century elements of the house are relatively easy additions for a carpenter of moderate skills. The interior stairway has no turns and could have been added to the center room with the relatively simple expedient of cutting a hole in the ceiling. The beaded board interior consists of tongue-and-groove boards secretly nailed and very commonly added to homes in the early 20th century to cover over deteriorated plaster walls. Finally, the dormers were probably remodeled or repaired in their present shape; ample precedent exists for this practice. The earlier dormers were probably blown off.

The basic design elements of the house are reflective of the period 1830-1840. It is highly unlikely that the simple floor plan and symmetrical outline of the house would have been installed circa 1910. If a 20th century builder had been progressive enough to install a beaded board interior, he would have also treated a progressive floor plan and a decorative exterior with jigsaw work, asymmetry, front gables massed in multiple planes, brackets, dentils, and side projections. The deep

gallery would not have been built into the roofline. It is also highly unlikely that the building would have been gabled-sided. After the Civil War, gable-sided styles were abandoned throughout Louisiana.

There is other evidence for an early or mid-19th century date of construction. The rear extensions and the rear wing are not organically related to the present house. Had they been intended to be part of this house in a 20th century construction, they would not be so structurally unrelated to the roofline. The second rear semi-detached wing exhibits form and details similar to innumerable plantation office buildings or infirmary buildings of the 19th century in Louisiana.

The Louisiana Red brick pillars strongly suggest that a house was built at 16PL84 Part B in the early 19th century. If this house had subsequently burned and been replaced in the 20th century, the Greek Ear mantles would have burned with it. If, on the other hand, a 19th century house had been blown down by a hurricane, such as the one of 1893, a new house built on the 19th century pillars would probably not have been built to a retrogressive design.

Although it is possible that the present house may have been built prior to 1812, its roofline suggests otherwise. An 1812 house would have probably been built with a hipped roof like that at Home Place in St. Charles Parish (Whiffen 1969). Although an 1812 house would show a similar floor plan to the house at 16PL84 Part B, the mantles, front doorway and front opening arrangement would be different. Also, the gallery would probably have wrapped around the sides of the house and the cornice arrangement would differ from that apparent on this house.

The house at 16PL84 Part B is an excellent example of the transitional style of Louisiana architecture between French and Spanish colonial types and American or Anglo-Greek revival types. It is a simple gable-sided cottage with classic style details such as the returning cornice and the pedimental effect in the gables, which are aspects of the classic revival trend in Louisiana. However, the basically hall-less floor plan only one room deep with colonial type cabinets presents the lingering French tradition that was finally overtaken by American notions of convenience after 1830 in New Orleans, and later in the countryside where older traditions persisted longer. This house is thus a blend of types, an example of an era not otherwise represented by extant buildings in Plaquemines Parish, Louisiana.

Both the standing structure at 16PL84 Part B and the archeological remains associated with 16PL84 Part A may be eligible to the National Register of Historic Places.

There is evidence to suggest that the archeological remains at 16PL84 Part A may represent several structures associated with Old Harlem Plantation, including an overseer's house, slave cabins, possibly a portion of the sugar house and a stable. In addition, informant information indicates that the site area may have been continuously occupied for an extensive period of time in the 19th and 20th centuries by a small community of black people, possibly extending into the antebellum period.

Scientific historical archeology is still poorly developed in much of Louisiana. Nevertheless, many established or important research priorities exist concerning the plantation period and subsequent developments. There is, for example, a general lack of archeological data from Louisiana comparable to other areas of the Southeast (Lewis and Hardesty 1979) concerning the internal spatial arrangement of plantations and the relative roles of owners, overseers, and slaves.

In the last decade, there has also been an increased interest in the historic archeology of ethnic minorities (e.g. Schuyler 1980). These interests include the recognition and analysis of ethnic differences through archeological data, studies of differing social and subsistence patterns, and the analysis of the effects of nationwide economic and political developments upon the local adaptation of rural ethnic minorities.

Although the most visibly significant archeological features at 16PL84 Part A lie beyond the Harlem Setback right-of-way, it is possible that structural remains, midden deposits, or features such as old cisterns and privies are preserved in untested areas of the site within the right-of-way. Based upon archival and informant information, it appears that the site area may have the potential to yield archeological information of importance to the research priorities outlined above. Should this be the case, 16PL84 may be eligible to the National Register of Historic Places under criterion d.

Based upon the evidence obtained to date, there is a good probability that the standing house within the Harlem Setback right-of-way dates to the period 1830-1840 and is the manor house of Old Harlem Plantation. If this is the case, the structure is the only preserved example in Plaquemines Parish of the transitional style of Louisiana architecture between French and Spanish colonial forms and American or Anglo-Greek revival buildings. As such, it may be eligible to the National Register of Historic Places under criterion c. It is also possible that there are subsurface midden deposits associated with the house that would be of historic archeological importance. Two cisterns behind the structure may also contain cultural remains and debris of archeological significance. Therefore, it is possible that the house area may also qualify 16PL84 as potentially eligible to the National Register under criterion d.

## Recommendations

No cultural resource sites were identified in the Woodland Borrow and the Harlem Borrow. A single site, 16PL83, was recorded in the Bohemia revetment, but it is not considered to be potentially eligible to the National Register. Based upon the findings of this study the Woodland Borrow, Harlem Borrow, and Bohemia Revetment projects can be implemented as planned by the Corps of Engineers.

A single site, 16PL84, was discovered in the Harlem Setback area. This site is considered to be potentially eligible for inclusion in the National Register of Historic Places. In spite of the intensive documentary research conducted for this project, however, the available

data are insufficient to make a clear-cut determination of eligibility concerning the cultural resources present at this site. Further archeological testing, documentary research, and oral historic data gathering will be necessary to complete the assessment of this property.

Available evidence suggests that the standing house at 16PL84 Part B was erected in the period 1830-1840 and was the manor house of Old Harlem Plantation. This interpretation is based upon a superficial internal and external architectural analysis of the structure and circumstantial documentary evidence. Since the significance of the house itself depends strongly upon its date of construction, it is necessary to obtain more direct evidence to date its initial construction and history.

1. The structure itself should be subjected to additional detailed architectural inspection. This inspection should include observation of construction details in the attic, the removal of the 20th century wall covering in several portions of the house to inspect the original wall construction, and the removal of flooring in certain areas to confirm the possible existence of an earlier floor.

2. Limited archeological testing should be undertaken of the adjacent cisterns and in areas of the yard in order to recover artifacts and debris that might further confirm the age of the structure. Excavation of a short trench beneath the eaves may also document any changes in roof line and orientation.

3. Documentary research should be continued, specifically in order to obtain additional visual materials such as plans and photographs of the house and plantation property. Additional archival material dating the house, such as building contracts, may also exist and should be sought out.

4. Further research in the family histories of the post-Civil War era may yield additional information supporting or refuting an early or mid-19th century construction date for the house.

5. Additional living descendants of occupants of the house should be interviewed. Specifically, the heirs of Charles Buckley, who bought Harlem Plantation in 1910, may have access to information showing whether Buckley built a new house at the location of 16PL84 Part B or whether he remodeled an existing dwelling.

This program of architectural, archival, oral historical, and archeological research should allow a final determination of the significance of the house at 16PL84 Part B.

Available documentary evidence and informant information suggest the possibility that 16PL84 Part A may preserve archeological data important to several regionally and nationally significant historical archeological research problems. Additional archeological testing is required to determine if the implementation of the Harlem Levee Setback will adversely impact the potential significance of the site.

A program of systematic subsurface testing throughout the site area within the right-of-way should be undertaken in order to assess the integrity, extent, and nature of the subsurface archeological remains likely to be adversely impacted by the Levee Setback. Specifically, these investigations should be aimed at locating undisturbed 19th century midden deposits within the right-of-way and other features such as cisterns and privies. Archeological investigation should also attempt to define more clearly the location and function of the structural remains visible within the right-of-way.

The archeological test program at 16PL84 Part A should be undertaken in conjunction with continuing documentary research and oral historical research in order to place the archeological data within a firm historical framework for significance determination.

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## INTERVIEWS

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Cullison, Bill, archivist in the Special Collections Department, Howard-Tilton Memorial Library, Tulane University,was interviewed by Pat Eggleston of Iroquois Research Institute. 15 September 1980.

D'Aquilla, Clara Lopez, former occupant of Harlem Plantation site, was interviewed by Sally Kittredge Evans. 3 November 1980.

Davis, Dave D., Professor of Anthropology at Tulane University, was interviewed by John D. Hartley of Iroquois Research Institute. 23 October 1980.

Flyn, Mark, head archivist of the Spanish-French Documents Collection, Archival Department of Loyola University was interviewed by Pat Eggleston of Iroquois Research Institute. 17 September 1980.

Haas, Richard, Chief Archivist at the Louisiana State Museum was interviewed by Pat Eggleston of Iroquois Research Institute. 22 September 1980.

Jones, Jean, librarian in the Louisiana Collection at the New Orleans Public Library was interviewed by Pat Eggleston of Iroquois Research Institute. 24 September 1980.

Kohn, Gary, archivist at the Manuscripts Department, Library of Congress was interviewed over the telephone by Pat Eggleston of Iroquois Research Institute. 23 October 1980.

Lawrence, John, head of the Curatorial Department of the Historic New Orleans Collection was interviewed by Pat Eggleston or Iroquois Research Institute. 20 September 1980.

Lopez, Beverly, current occupant of Harlem Plantation site, was interviewed by Sally Kittredge Evans. 1 November 1980.

Lopez, Juanita, mother of Ms. Beverly Lopez, a landowner in the project area of Harlem Levee Setback, was interviewed by Adam Garson of Iroquois Research Institute. 8 October 1980.

Meyers, J. Ben, amateur historian of Plaquemines Parish, Louisiana was interviewed by Pat Eggleston of Iroquois Research Institute. 24 September 1980.

Middleton, William, Chief Engineer of the Jefferson Parish Levee Board, Harahan, Louisiana, was interviewed over the telephone by John D. Hartley of Iroquois Research Institute. 16 September 1980.

Polchow, Elizabeth, member of the library staff at the Historic New Orleans Collection, was interviewed by Pat Eggleston of Iroquois Research Institute. 20 September 1980.

Sanders, Tina, staff member at the National Register of Historic Places was interviewed over the telephone by Pat Eggleston of Iroquois Research Institute. 29 September 1980.

Shenkel, Richard, faculty member of Anthropology and Geography Department at the University of New Orleans was interviewed by Paula Zitzler of Iroquois Research Institute. 18 September 1980. He was also interviewed by Pat Eggleston of Iroquois Research Institute. 23 September 1980.

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circa 1890 Tulane University. Louisiana Collection, Tulane Library. Map of the City of New Orleans. Prepared for Jewell's Crescent City Illustrated. Scale not given.

1895 Mississippi River Commission. Map of survey of the Mississippi River. Chart 79. Library of U.S. Army Corps of Engineers, New Orleans District. Scale 1:20,000.

1895 Mississippi River Commission. Map of survey of the Mississippi River. Chart 80. Library of U.S. Army Corps of Engineers, New Orleans District. Scale 1:20,000.

1897 National Archives. Center for Cartographic and Architectural Archives. Record group 77. Map of Mississippi River, Louisiana. Brigadier General John M. Wilson, U. S. Army Chief of Engineers. Scale: 1:10,000.

1916 National Archives. Center for Cartographic and Architectural Archives. Record group 49. State of Louisiana. I. P. Berthrong. Scale: 1 inch to 12 miles.

1964 U.S. Army Corps of Engineers. Black Bay, Louisiana. Mapped, edited and published under the direction of the President, Mississippi River Commission, by the U.S. Army Engineer District, New Orleans, Corps of Engineers. Scale 1:62,500.

1964 U.S. Army Corps of Engineers. Pointe a la Hache, Louisiana. Mapped, edited and published under the direction of the President, Mississippi River Commission, by the U.S. Army Engineer District, New Orleans, Corps of Engineers. Scale 1:62,500.

1973 U.S. Department of the Interior Geological Survey. Happy Jack, Louisiana. Mapped, edited and published by the Geological Survey. Scale 1:24,000.

1973 U.S. Department of the Interior Geological Survey. Lake Laurier, Louisiana. Mapped, edited, and published by the Geological Survey. Scale 1:24,000.

1973 U.S. Department of the Interior Geological Survey. Phoenix, Louisiana. Mapped, edited, and published by the Geological Survey. Scale 1:24,000.

# APPENDIX A

## Cartographic Review

In order to evaluate the potential for discovering cultural resource sites within the project areas, map collections were examined at the following depositories: National Archives Center for Cartographic and Architectural Archives; the Library of Congress Geography and Maps Division; the Bureau of Land Management; the U.S. Army Corps of Engineers, New Orleans District Library; the Louisiana Collection at the Tulane University Library; the Louisiana Division of the New Orleans Public Library; the Louisiana Historical Center at the Louisiana State Museum in New Orleans; and the Curatorial Department of the Historic New Orleans Collection. Quadrangle maps were obtained from the U.S. Geological Survey. The purpose of the cartographic review is to obtain data on historic land use and settlement and to provide locational verification and general dating for historic features identified during the field investigation.

Most of the cartographic collections examined contain Louisiana regional maps published during the 18th, 19th and 20th centuries. With a few exceptions, most of these maps were found to be insufficiently detailed to accurately depict individual cultural features within the vicinity of the Woodland Levee Enlargement, Bohemia Revetment and Harlem Levee Setback and Borrow. This cartographic review is based upon three sources of information: early plat maps on file at the Bureau of Land Management; Mississippi River Commission charts obtained at the U.S. Army Corps of Engineers, New Orleans District and the Louisiana Collection of the Tulane University Library; and quadrangle maps obtained at the U.S. Geological Survey. A complete listing of all maps and charts consulted for this project can be found on pages 84 to 89 of this report.

A number of factors exist which hamper the completely accurate identification and location of historic cultural features in and near the survey areas. Differing map scales and degrees of detail often make the accurate location of cultural features with respect to the present survey areas difficult. This problem is exacerbated by occasionally extensive migration of the Mississippi River channel in the historic period. Finally, as a result of chronological gaps among the detailed maps, cartographic information is lacking for significant periods of time.

Woodland Levee Enlargement, M-49-R

Plat map Township 18 South Range 17 East, Southeastern District of Louisiana, July 9, 1832. No scale is given. This plat shows survey lines of Sections 18 and 19 crossing the project area in 1832.

| Section | Acres | Claimant |
|---|---|---|
| 18 | 34.83 | Bartholomew Baptiste |
| 19 | 5 | Jean Lefrance |

No other pertinent cultural features are depicted.

Chart 80, "Survey of the Mississippi River," Mississippi River Commission, 1895. The scale is 1:20,000. This map depicts a levee abutting the project area, together with buildings apparently associated with the Magnolia Sugar Cane Plantation, operated by H.C. Warmoth, immediately outside the project area. Railroad tracks of the New Orleans, Fort Jackson and Grand Isle Railroad run parallel to the levee on its land side outside the project area.

Fifteen minute quadrangle map, "Pointe a La Hache, Louisiana," 1964. This map was prepared, edited and published by the U.S. Army Engineer District, New Orleans, Corps of Engineers. The scale is 1:62,500. The map depicts a levee abutting the project area, together with tracks of the Missouri Pacific Railroad paralleling the levee on its land side immediately outside the project area, and a hard-surface heavy duty road paralleling the railroad tracks outside the project area. Buildings and roads associated with the town of Magnolia appear upriver a short distance outside the project area.

Seven and a half minute quadrangle map, "Point a La Hache, Louisiana," 1973. This quad was mapped, edited and published by the U.S. Geological Survey. The scale is 1:24,000. The map depicts a levee abutting the project area, together with an unimproved road running atop the levee. Tracks of the New Orleans and Lower Coast Railroad parallel the levee on its land side immediately outside the project area; and a hard surface secondary highway parallels the railroad tracks outside the project area. Buildings and roads associated with the town of Magnolia appear upriver a short distance outside the project area.

Bohemia Revetment, M-46-L

Plat Map Township 17 South Range 14 East, South Eastern District of Louisiana, St. Helena Meridian, December 31, 1831. No scale is given. This plat shows survey lines of Sections 32 through 45 crossing the project area.

| Section | Acres | Claimant |
|---|---|---|
| 32 | 741.51 | Joseph Martin |
| 33 | 159.63 | Not identified |
| 34 | 160.2[illegible] | " " |
| 35 | 160.29 | " " |
| 36 | 166.34 | " " |
| 37 | 160.11 | " " |
| 38 | 160.11 | " " |
| 39 | 160.11 | " " |
| 40 | 160.11 | " " |
| 41 | 159.00 | " " |
| 42 | 162.00 | " " |
| 43 | 68.15 | John Eagle |
| 44 | 110.58 | Not identified |
| 45 | 187.49 | " " |

No other pertinent cultural features are depicted.

AD-A118 563 IROQUOIS RESEARCH INST FAIRFAX VA F/G 5/6
CULTURAL RESOURCES SURVEY OF THREE MISSISSIPPI RIVER LEVEE AND --ETC(U)
MAR 82 J D HARTLEY, A G GARSON, C R BROOKS DACW29-80-D-0107
UNCLASSIFIED PD-RC-82-08 NL

Plat Map Township 17 South Range 14 East, South Eastern District of Louisiana, St. Helena Meridian , November 30, 1854. No scale is given. This plat shows survey lines of Sections 32 through 45 crossing the project area.

| Section | Acres | Claimant |
|---|---|---|
| 32 | 656.63 | Peter Martin |
| 33 | 159.82 | Not identified |
| 34 | 164.22 | " " |
| 35 | 161.68 | " " |
| 36 | 170.33 | " " |
| 37 | 164.27 | " " |
| 38 | 158.10 | " " |
| 39 | 171.80 | " " |
| 40 | 160.66 | " " |
| 41 | 150.53 | " " |
| 42 | 100.85 | " " |
| 43 | 73.67 | " " |
| 44 | 107.76 | " " |
| 45 | 203.44 | Barthelemy Baptiste |

No other pertinent features are depicted.

Chart 80, "Survey of the Mississippi River," Mississipp River Commission, 1895. The scale is 1:20,000. This map depicts a levee abutting the project area, together with buildings and roads apparently associated with the rice farms immediately outside the project area, including, from upriver to downriver, those belonging to Pierre Cosse, Joseph Martin, Ambrose Martin, Joseph Cosse, Norbert Martin, Mrs. R. Martin, Haspel and Davis, Felix Cosse, H. Satchel, B. Dolede, E. Cavalier, F. C. Mevers, A. Roseberg, M. Mandot, Oscar Martin, Davis Martin, Chaumier and Farrell, B. Mevers, and the Bohemia Rice Plantation belonging to Dr. N.N. Hebert. Tracks of the New Orleans and Southern Railroad run parallel to the levee on the land side a short distance from the project area.

Fifteen minute quadrangle map, "Pointe a La Hache, Louisiana," 1964. This quad was mapped, edited and published by the U.S. Army Engineer District, New Orleans, Corps of Engineers. The scale is 1:62,500. The map depicts a levee abutting the project area, together with a hard surface, heavy duty road paralleling the levee on its land side immediately outside the project area. A number of houses, two churches, a cemetery, two unimproved dirt roads and a radio tower also appear a short distance from the project area.

Fifteen minute quadrangle map, "Black Bay, Louisiana," 1964. This quad was mapped, edited and published by the U.S. Army Engineer District, New Orleans, Corps of Engineers. The scale is 1:62,500. The map depicts a levee abutting the project area in Section 45. A navigation light appears in the project area. What appears to be a canal, or water-filled borrow, parallels the levee on its river side inside the project area. A short distance outside the project area, a hard surface, medium duty road parallels the levee on its land side.

Seven and a half minute quadrangle map, "Pointe a La Hache, Louisiana," 1973. This quad was mapped, edited and published by the U.S. Geological Survey. The scale is 1:24,000. The map depicts a levee abutting the project area, together with an unimproved road atop the levee. A short distance outside the project area, a light duty road parallels the levee on its land side. A number of houses and a few churches, outbuildings and unimproved roads and a radio tower also appear a short distance outside the project area. A navigation light appears inside the project area at the river's edge of Section 45.

Seven and a half minute quadrangle map, "Happy Jack, Louisiana," 1973. This quad was mapped, edited and published by the U.S. Geological Survey. The scale is 1:24,000. The map depicts a levee abutting the project area in Section 45, together with an unimproved road atop the levee. Inside the project area paralleling the levee on its river side, appears a canal or water-filled borrow. A short distance outside the project area, a light duty road parallels the levee on its land side.

Harlem Levee Setback and Borrow, M-56-L

Plat Map Township 16 South Range 13 East, South Eastern District of Louisiana, St. Helena Meridian, November 9, 1854. No scale is given. This plat shows survey lines of Sections 44 and 45 that cross the project area of the Harlem Levee Setback.

| Section | Acres | Claimant |
|---|---|---|
| 44 | 607.54 | P.C. Wederstrandt |
| 45 | 450.11 | Jean Lanthois |

No other pertinent cultural features are depicted.

Chart 79, "Survey of the Mississippi River," Mississippi River Commission, 1895. The scale is 1:20,000. This map depicts a levee abutting the two project areas. Inside the Harlem Levee Setback project area appears what may be a borrow or water-filled borrow area. Possibly inside this same project area appear buildings associated with the Harlem Rice Plantation, owned by Haspel and Davis. Outisde the project area, but near to it, appears the Bellevue Rice Plantation owned by Bradish Johnson. Tracks of the New Orleans and Southern Railroad cross both plantations, paralleling the levee not far from the project area. Outside the project area of Harlem Levee Borrow at Poverty Point, appears the Monsecour Plantation owned by John Kelly.

Fifteen minute quadrangle map, "Pointe a La Hache, Louisiana," 1964. This quad was mapped, edited and published by the U.S. Army Engineer District, New Orleans, Corps of Engineers. The scale is 1:62,500. The map depicts a levee abutting both project areas, together with a hard surface, heavy duty road paralleling the levee on its land side and crossing the project area. A house and several buildings appear along the hard surface, heavy duty road that is also inside the Harlem Levee Setback project area.

Seven and a half minute quadrangle map, "Phoenix, Louisiana," 1973. This quad was mapped, edited and published by the U.S. Geological Survey. The scale is 1:24,000. The map depicts a levee abutting both project areas, together with an unimproved road atop the levee. A short distance outside the Harlem Levee Borrow project area, a hard surface, secondary road appears, from which a light duty road begins. A short distance outside the Harlem Levee Setback, a light duty road parallels the levee on its land side, which is probably inside the project area.

Seven and a half minute quadrangle map, "Lake Laurier, Louisiana," 1973. This quad was mapped, edited and published by the U.S. Geological Survey. The scale is 1:24,000. The map depicts a levee inside the Harlem Levee Setback project area, together with an unimproved road atop the levee. Also inside the project area, a light duty road parallels the levee on its land side, with two buildings in Section 44 abutting the road.

# APPENDIX B

## ABOUT THE AUTHORS AND CONTRIBUTORS

Iroquois Research Institute is one of the most active private research centers for archeological and historical investigations in North America. The Institute has attracted a highly skilled staff organized in the research services of Anthropology, History, Architecture, and Environment and Engineering. In addition to the full time staff, visiting scholars are invited to participate in specialized and complex research projects.

Cecil R. Brooks, Senior Environmental Analyst, received his Ph.D. in Plant and Soils Science from Texas A & M in 1966. He has been the principal investigator for plant and soil science studies and for environmental inventories of study areas throughout the United States: Alaska, California, Utah, Kansas, Missouri, Texas, Arkansas, Louisiana, Tennessee, Kentucky, Virginia, Maryland, and the District of Columbia. Dr. Brooks has valuable experience in participating in complex interdisciplinary programs and is co-author of several recent cultural resource reports.

William E. Duncan, Archeologist, received his B.A. in Anthropology in 1977 from the University of Maryland. He has experience in both reconnaissance surveys in Maryland and Louisiana.

Douglas H. Edsall, Geologist, received a Ph.D. in Marine Geology from Columbia University in 1975. Dr. Edsall is experienced as a marine geologist, geomorphologist, environmental scientist, and forensic geologist. He is certified by the Association of Professional Geological Scientists, #3990. He has performed as principal investigator of fluvial features, geological formations and their chronological association with cultural features. He is a tenured professor in the Department of Environmental Sciences at the United States Naval Academy.

Patricia B. Eggleston, Historian, received her Ph.D. in History from the University of Alabama in 1980. Dr. Eggleston has completed several history assignments for cultural resource projects and is experienced in assisting historic archeologists in defining research objectives and commensurate field methodologies.

Adam G. Garson, Senior Archeologist, received his Ph.D. in Anthropology from Yale University in 1980. Dr. Garson is experienced in research design, project management and administration. He has conducted excavations, surveys, and research in New York, Connecticut, Maryland, Arizona, Louisiana, the West Indies, and Venezuela. Dr. Garson is skilled in artifact analysis, ecological studies, statistical methods, and computer programming.

John D. Hartley, Principal Investigator, is currently A.B.D. in Anthropology at Tulane University, where he has specialized in North American archeology. The University of Oklahoma awarded him an M.A. in Anthropology in 1974. He has been involved in cultural resource management projects since 1971, working his way up from laboratory assistant and crew member to crew chief, and then to field director and project archeologist. His archeological experience is in Kansas, Missouri, Oklahoma, Louisiana, Virginia, and Central America. His skills include historical and archival research and lithic and ceramic analysis.

Kenneth R. Jones, Archeologist, received his B.A. in Anthropology from the University of Pennsylvania in 1973 and is currently a doctoral candidate at Tulane University. He has extensive experience in survey, test operations and excavation in Pennsylvania, Arizona, Tennessee, Louisiana, Alabama, Mexico and Guatemala.

Christine I. Micale, Cartographer and Graphics Illustrator, has been schooled in Art history, drawing and design and is experienced as a technical illustrator and graphic artist. She supervises the production of graphics, charts, art diagrams, and line work for Institute environmental and cultural resource reports.

Thomas H. Ray, Historian, received his PH.D. in History from the University of Colorado in 1974. He conducts oral history interviews and prepares documented reports conveying the political, military, economic, social and cultural aspects of U.S. local and regional history. These historical reports are based upon extensive research at national, regional and local repositories. A professional historian for more than 20 years, Dr. Ray is the author of official histories, monographs, historical analyses, and reports for various governmental agencies. He also served as an archivist at the National Archives for five years.

Sally Kittredge Evans Reeves, Architectural Historian, received a B.A. in English from Newcomb College. She has co-authored several award-winning books in the Friends of the Cabildo New Orleans Agriculture series. She has also co-authored many local histories and has written research projects in specific local history and architecture for architectural firms, real estate investors, business and individuals in the New Orleans area.

Eugenia J. Robinson, Archeologist, is currently A.B.D. in Anthropology at Tulane University and has extensive field experience in both survey and excavation in the northeastern United States and Louisiana, Guatemala, Mexico and Honduras. She is also experienced in illustration, drafting, computer and statistical skills.

Leslie P. Smith, Archeologist, received her B.A. in Anthropology from the University of California at Santa Barbara in 1975. She is currently a doctoral candidate at Tulane University. She has surveying and excavation experience in southeastern United States, California and Mesoamerica.

Rhonda Steppe, Archeologist, received her B.A. in Anthropology from The George Washington University in 1980. She is experienced in historical and archival research, archeological surveying and excavation, museum specimen preparation and photographic darkroom techniques. She has assisted in field operations in Maryland, Virginia and Louisiana.

Mary Lou Vanzin, Archeologist and Laboratory Analyst, is currently completing a thesis for a master's degree in Archeology from the University of Pittsburgh. She has a range of experience in various types of artifact analysis including lithic, ceramic and shell remains. Ms. Vanzin has also participated in the curation and preservation of cultural collections and has analyzed both micro- and macro-floral and faunal remains. She has been supervisor of archeological surveys in Ohio, Illinois and Virginia, and participated in survey, test operations, and excavations in Pennsylvania, Colorado, Arkansas, and Louisiana.

Paula Zitzler, Archeologist, recevied her B.A. in Anthropology in 1977 from Indiana University of Pennsylvania. She is experienced in archeological survey, testing, and excavation for both historic and prehistoric sites. She is also experienced in artifact curation and cartography. Ms. Zitzler has participated in survey and test operations in New York, Pennsylvania, Arkansas, Missouri, Connecticut and Virginia, and has conducted a background search for interpreting archeological data from Louisiana.